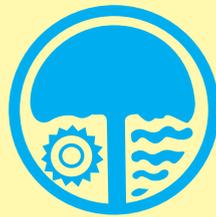




**MINISTRY OF IRRIGATION & WATER RESOURCES MANAGEMENT**



**WATER RESOURCES BOARD**

**ANNUAL REPORT**

**2012**

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## **1. Introduction**

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.

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.

## **2. Vision**

Adequate access to clean and safe water for all

## **3. 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.

## **4. Objectives**

- i. Carry out research for assess and development of groundwater resources
- ii. Collection of data on groundwater resources
- iii. Carry out hydrogeological survey
- iv. Awareness creation on the utilization of groundwater resources
- v. Assessment of groundwater projects
- vi. Implementation of the activities of the board with the coordination of other institutions

## **5. Functions**

- i. Carry out research on groundwater resources of Sri Lanka
- ii. Interpretation of data on groundwater resources development
- iii. Carry out hydrogeological surveys to detect groundwater resources
- iv. Identification of groundwater potential zones
- v. Identification of groundwater sources by using geo scientific methods
- vi. Carry out studies for groundwater resources development
- vii. Analysis of water samples, chemically, bacteriologically and for heavy metals
- viii. Collect and maintain groundwater data and preparation of hydrogeological maps

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## 6. Director Board

- i. Mr. Bandula Munasinghe - Chairman
- ii. Dr. Sisira Kodagoda - Working Director
- iii. Mr. M.A.P. Hemachandra - Director
- iv. Mr. R.B.C. Rathnamalala - Director
- v. Mr. R.M.C. Rathnayake - Director
- vi. Mrs. Shriyani Perera - Director
- vii. Mr. Asanga Dayaratne - Treasury Representative

### 6.1. Board Meetings

Seven (07) Board meetings were held in the year under review.

### 6.2. Audit and Management Committee

- i. Mr. R.B.C. Rathnamala - Chairman - Director
- ii. Dr. Sisira Kodagoda - Member - Working Direct
- iii. Mr. M.A.P. Hemachandra - Member - Director
- iv. Mr. R.S. Wijesekera - Secretary - General Manager
- v. Mr. Asanga Dayaratne - Member - Treasury Representative

#### 6.2.1. Audit and Management Committee Meetings

Three (03) audit and management committee meetings were held during the year 2012.

### 6.3. Senior Executive Officers – year 2012

- i. Mr. R.S. Wijesekera - General Manager
- ii. Mr. J. Weerakoon - Deputy General Manager (Hydrogeology)
- iii. Mr. A.B.M. Chandrasiri - Assistant General Manager (Finance)
- iv. Mr. M.A. Pushpakumara - Assistant General Manager (Administration)
- v. Mr. Nihal Wellalage - Assistant General Manager (Drilling)
- vi. Mr. G.R.R. Karunaratne - Assistant General Manager (Hydrogeology)
- vii. Mr. P.P.S.R.K. Pathirana - Assistant General Manager (Operations)
- viii. Mr. M.J. Deshapriya - Assistant General Manager (Engineering)

## 7. Operational Activities Performed in the year 2012

### 7.1. Treasury Funds

Under the Treasury funds, the following research studies were conducted with the coordination of Head office and Provincial Offices in year 2012.

- i. Hydrogeological study on the coastal sandy aquifer extending from Colombo to Negombo (see 8.1)
- ii. Groundwater Atlas of Sri Lanka (see )
- iii. Development of groundwater monitoring network in Jaffna Peninsula (see 9.1)
- iv. Water quality changes studies in Anuradhapura district (see )
- v. Hydrogeological study on limestone aquifer in Mannar district (see )

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## **7.2. Generated Funds**

On the requests of various Government Institutions, Non-government organizations and Individuals, groundwater development activities were conducted in each province during the year 2012. Hydrogeological Investigations, Pumping Tests, Chemical and Microbiological Analysis of water samples were mainly done in this regard. Details of those works are given under the provincial offices.

## **7.3. Capacity Building**

In 2012, four Hydro-geologists and two chemists were recruited to strengthen the capacity of Hydrogeology Division. The Hydro-chemical laboratory of Jaffna Office was newly constructed. The facilities of geophysical and chemical laboratories were upgraded under Treasury funds and Dam safety and water resources development projects. Following equipment is provided to enhance the quality of hydro-geological, hydro-chemical and geophysical surveys conducting by the Hydrogeology Division.

### **7.3.1. Major Hydrogeological Equipment**

- i. Geo-electrical resistivity meter having capacity to carry out Two Dimensional (2D) and Three Dimensional (3D) resistivity surveys. This equipment can be used to identify deep seated aquifer conditions in very complex geological terrains such as Northwestern and Jaffna Limestone terrains and inland groundwater recourses within basement hard rocks terrains.
- ii. Differential Global Positioning System (DGPS) for accurate leveling of well heads that is essential to build up groundwater flow models.

### **7.3.2. Computer Items**

- i. 03 nos. high capacity desktop computers were purchased for researches and 04 nos. laptop computers for field use.
- ii. New Software for Groundwater Modeling, Pumping tests analysis, geophysical data analysis and hydro-chemical analysis.

### **7.3.3. Laboratory Equipment**

During the year 2012 WRB laboratories are upgraded with number of modern analytical equipments as given under laboratory section. Vast amount of chemical that is necessary for the analysis also provided.

## **8. Western Province**

### **8.1. Hydrogeological study on the coastal sandy aquifer extending from Colombo to Negombo (Treasury fund)**

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Detailed hydrogeological studies of the coastal sandy aquifers extending from Colombo to Negombo have been commenced in 2011. The main aim of the study is to establish groundwater monitoring network with dedicated monitoring test boreholes in order to collect temporal data on groundwater quality changes and water table fluctuation. The test boreholes were expected to construct representing all aquifer units including most sensitive and vulnerable areas for groundwater deterioration due to over abstraction and industrial and domestic pollution.

The studies were included following components that are essentially to be followed up in order to achieve its objectives.

- i. Desk Studies; collection and analysis of available hydrogeological data, baseline field studies including well monitoring, random water sampling, water quality analysis and preparation of basic water quality distribution maps.
- ii. Geo-electrical resistivity surveys and selection of test well sites, Awareness programs to convince public and stakeholders about importance of the study.
- iii. Drilling test boreholes, preparation of well data records, well logs, Leveling of test wells for elevation heights, preparation of location maps, groundwater contour maps, maps showing aquifer geometry, cross sections etc.
- iv. Pump testing and groundwater potential assessment, groundwater sample collection and hydro-chemical analysis.
- v. Finally, establish a systematic groundwater database and seasonally update and keep readily available for the requirements relating to groundwater resources management.

According to the annual work plans set out to 2012, above mentioned project activities were carried out and the progress achieved is given below.

- i. Collection of digital and hard copies of topographical, geological maps, existing dug wells and tube wells details, and available chemical data
- ii. Conducting of 80 nos. Geophysical investigations and two awareness programs to stakeholders and public
- iii. Construction of 60 nos. test boreholes
- iv. Groundwater monitoring of 2012 pre-monsoon period
- v. Water quality analysis of 60 nos. test borehole water samples
- vi. Preparation of hydro-chemical distribution maps using GIS

All of the above data are gathered and compiled as a separate report for further analysis. Analysis of pumping tests results, preparation of borehole lithologs, geological sections and 2D and 3D models representing the aquifer geometry etc. to be completed while conducting of 2013 study program.

## **8.2. Generated funds work performed under Western province in year 2012**

Head office (Western province) has conducted 41 nos. hydrogeological investigations, 8 nos. construction of tube wells, 15 nos. pumping tests, 225 nos. water samples analysis in chemically and 44 nos. water samples analysis in bacteriologically. Total income earned by the Western Province for the year 2012 was Rs. 6.0 million.

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## 9. Northern Province

### 9.1. Jaffna Well Monitoring Project (Treasury fund)

This water quality monitoring project was started for the DS Divisions in Valigamam and Wadamarachchi areas. The water sampling for dry season of 2012 and full chemical analysis for those samples were completed. The progress report for year 2012 has been submitted.

### 9.2. Dam Safety and Water Resources Planning Project in Jaffna pilot area

This project was going on and the main objective of this project is establishment of long term water quality monitoring network for the Jaffna, Nallur, Chavakachcheri and Pachchilapallai DS Divisions. Now this project is on a consolidation period.

### 9.3. Generated funds work performed under Northern province in year 2012

Northern provincial office has conducted 21 nos. hydrogeological investigations, 8 nos. construction of tube wells and 10 nos. pumping tests. Total income earned by the Northern Province for the year 2012 was Rs. 5.4 million.

## 10. North Central Province

During the year 2012, Provincial office has conducted 25 nos. hydrogeological investigations, 19 nos. construction of tube wells, 09 nos. pumping tests, 238 nos. water sample analysis, 01 no. hand pump installation, 07 nos. well cleaning and developed the 12 nos. natural springs. Further, water quality studies, Awareness program and Water Clinic program were conducted. Total income earned by the North Central province for the year 2012 was Rs. 11.5 million. The details of the above mentioned activities are as follows;

### 10.1. Conservation and development of natural springs in Anuradhapura district (under Disaster Management Centre)

Water Resources Board has identified 12 natural springs with good quality water within the Anuradhapura district. Therefore, WRB has carried out project to conserve and develop the natural springs to provide safe drinking water for the people in Anuradhapura district. About 2500 families in rural areas of district benefitted by this project which supplies about 300,000 liters per day.



Figure 01: Conservation and development of natural springs in Anuradhapura district

## 10.2. Training and water clinic programme (Treasury funds)

Water Resources Research and Training Centre undertake awareness and water clinics programs for grass root level officials and rural population to mitigate water related health hazards that affect rural in the dry zone areas under the treasury grant.

### 10.2.1. Three - days residential training

Three days residential awareness programmes were conducted at the centre for government officers and village leaders including Grama Niladharies, Samurdhi Development Officers, Public Health Inspectors (PHI), Mid wives, School Teachers, Agricultural Research & Development Officers and Community Health Development Officers. Participants are provided with food and lodging free of charge. Six numbers of three-day training programs were conducted during the year 2012 and 129 government officers were attended for the program from Anuradhapura, Polonnaruwa and Kurunegala Districts (Table 01) Different subjects related to water have been introduced to participants under the training programme by Water Scientists and Medical professionals in different fields.



Figure 02: (a) Participants at class room (b) Participants at field demonstration

Table 01: The details of participants

District	DS Division	Duty Bearers							
		GN	SDO	ARPA	PHM	PHI	MO	ST	NO
Anuradhapura	Padaviya	-	-	-	-		01	02	-
	Nochchiyagama	-	07	01	01		01	-	-
	Ipalogama	-	-	-	-		01	-	-
	Mihinthalaya	-	-	-	-		01	-	-
	Manupa	-	-	-	-		03	-	-
	Thambuththegama	03	-	-	-		01	-	-
	Rajanganaya	02	-	-	01		01	-	-
	Galenbindunuwewa	-	-	-	-		01	-	-
	N enupa	-	-	03	-		02	-	01
	Kahatagasdigilliya	-	-	-	-		01	-	-
	Kekirawa	-	-	-	-		01	-	-
	Rambewa	08	-	-	-		01	-	-

	Mahawilachchiya	-	-	-	-		01	-	-
	Thalawa	-	02	02	01		-	-	-
	Galnewa	04	02	-	-		-	-	-
	Palagala	06	-	-	-		-	-	-
	Palugaswewa	06	-	-	-		-	-	-
	Medawachchiya	02	-	-	-		-	-	-
	Kebithigollewa	-	01	-	-		-	-	-
Polonnaruwa	Lankapura	03					01		
	Medirigiriya			04	02				
	Sewagama			04					
	Dimbulagala							24	
	Bakamuna			07					
	Girithale			02					
Kurunegala	Giribawa	05							
	Ehetuwewa	02	04						
	<b>Total</b>	<b>41</b>	<b>16</b>	<b>23</b>	<b>05</b>	<b>01</b>	<b>16</b>	<b>26</b>	<b>01</b>

PHI : Public Health Inspectors

GN : Grama Niladhari

ARPA : Agricultural Research & Production Assistant

CHDO : Community Health Development Officers

PHM : Midwife

SDO : Samurdhi Development Officer

ST : School Teachers

US : University Students

### 10.2.2. Water Clinics (Jalasayana)

Farmers, rural population and school children should be educated through the awareness programs to minimize the water borne diseases in the affected areas. With the support of Medical Officers and Duty bearers, community base awareness programs (Jalasayana/water clinic) were conducted in the most affected DS divisions in the Anuradhapura, Polonnaruwa and Kurunegala districts. Thirteen Water clinics were conducted at Anuradhapura, Polonnaruwa and Kurunegala districts during the year 2012 (Table 02). The “Jalasayanaya” include mainly five folds, namely, distribution of leaflets, presentations, water analysis, distribution of fluoride reducing filters and distribution of set of clay pots.

Table 02: The details of Water clinics conducted during the year 2012

D.S.Division	No of Water Clinics conducted	No of Participants attended	No of Sample analyzed	No of filters distributed	No of set of clay pots distributed
Padaviya	01	125	83	-	-
Medawachchiya	01	110	53	08	-
Horowupathana	01	215	110	-	-
Nochchiyagama	01	150	91	-	15
Palugaswewa	01	100	60	-	15
Rajanganaya	01	250	136	-	15
Thambuththegama	01	150	99	12	03
Kebithigollewa	01	120	59	-	15
Manupa	02	225	240	40	40
Nenupa	01	110	63	04	-
Bakamuna	01	300	150	11	15
Ehetuwewa	01	350	207	09	-
<b>Total</b>	<b>13</b>	<b>2205</b>	<b>1351</b>	<b>84</b>	<b>128</b>



Figure 03: (a) Water analysis (b) Rural peoples and school children at water clinic

### 10.3. Research Studies

#### 10.3.1. Water quality study of aquifer systems and other water bodies in Anuradhapura district

Water Resources Board has initiated the research project, "Water Quality Study of Aquifer Systems and Other Water Bodies in Anuradhapura District" under treasury grant in the year 2011 and detailed studies in Malwathu Oya and Yan Oya basins were carried out in year 2012. Main objective of the study is the identification of the water quality distribution in surface, shallow and deep water bodies within Malwathu Oya and Yan Oya river basins in order to make specific recommendations for further studies on water quality distribution including long-term monitoring.

Total numbers of 276 representative water samples were collected during field survey from dug wells, tube wells, tanks, streams and irrigation were analyzed for fifteen chemical and physical parameters. Additionally, selected samples were analyzed for heavy metals such as Cadmium (Cd), Zinc (Zn), Arsenic (As), Mercury (Hg), Sodium (Na) and Potassium (K).

Under this project, 07 test wells were drilled in the project area and the details were given in Table 03.

Table 03: Test wells drilled in Anuradhapura district

Serial no.	DS Division	Village	No. of wells
1	Horowpothana	Kulumeemakada	01
2	Kahatagasdigiliya	Kanhidagama	01
3	Ipalogama	Hiripitiyagama	01
4	Kekirawa	Hawantennegama	01
5	Kebithigollewa	Kebitigollawa	01
6	Medawachchiya	Medawachchiya	01
7	Padawiya	Maithripura	01
<b>Total</b>			<b>07</b>

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## 11. North Western Province

In order to fulfill the domestic, agricultural and industrial water requirement of the people in North western province and the government and private institutions of the province, the following activities were completed in year 2012. Provincial office has conducted 95 nos. hydrogeological investigations, 33 nos. construction of tube wells, 24 nos. pumping tests, 04 nos. tube well cleaning, 123 nos. water sample analysis and 13 nos. hand pump installation. Total income earned by the North Western province for the year 2012 was Rs. 30.4 million.

The details of the groundwater assessment, investigation and development activities conducted by the Puttalam provincial office during the year 2012 are as follows.

**11.1.** Carried out detail hydrogeological surveys, tube well drilling, hand pump installation, pumping tests and water quality analysis under the government organization, private parties and mini water supply schemes (Prajamula) at Puttalam, Anamaduwa, Pallama, Kalpitiya, Mundalama, Battolu Oya, Dankotuwa, Arachchikattuwa, Vanathawilluwa, Naththandiya and Kobeigane DS divisions. The income was Rs. 9.3 million.

**11.2.** The detail 2D- image resistivity surveys, tube well construction and pumping test were carried out at "Forbers and Walkes" land in Bandaranayakapura, Vanathawilluwa.

**11.3.** Due to the drought conditions most of the paddy cultivations were destroyed in Nikaveratiya as poor irrigation water supply. Therefore, hydrogeological surveys were carried out to identify the shallow sandy aquifer systems along Deduru Oya right bank at Pansalyaya, Ibbawala. The shallow tube wells were constructed and water supply for paddy land in to some extent from these tube wells. The income was Rs. 0.6 million.



Figure 04:

**11.4.** Under the "World Vision" organization, the hydrogeological surveys, pumping test and tube construction were carried out to supply water rural communities at Maha\_Andarawewa, Welwewa in Anamaduwa and Kurunegala. The income was Rs. 1.3 million.

**11.5.** Holcim (Pvt.) Ltd. expected to build a new clinker plant at Akuwakkalu quarry area. The new plant operation will require uninterrupted water supply to run the machinery. The detail hydrogeological survey was carried out including 2-D image survey resistivity surveys and found the best locations for tube well constructions. The tube wells were

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constructed and carried out 72 hour pumping test including water quality analysis. The income was Rs. 6.0 million.

**11.6.** Detail resistivity survey was carried out and constructed the tube well at Madu AGA quarters to fulfill water requirement of office and quarters. The income was Rs. 0.5 million.

**11.7.** Under the Disaster Management center (DMC), the detail hydrogeological surveys were carried out at new resettle areas in Mannar district. Hand fitted tube wells then were successfully constructed. The income was Rs. 4.3 million.

**11.8.** Under the National Water Supply and Drainage Board, mini water supply project in Mannar, hydrogeological surveys were carried out in selected villages. Tube wells were constructed and carried out pumping tests including water quality analysis. The reports were prepaid including the recommendations.



Figure 05:

**11.9.** Due to the Deduru oya reservoir project the families were resettled. The detail hydrogeological surveys were carried in Mdurakanchiya to find the locations for tube well constructions. The hydrogeological surveys were carried out in Polgammanawatta resettle area and completed hand fitted tube wells including water quality analysis. The income was Rs. 1.0 million.

**11.10.** Hydrogeological study on limestone aquifer system in Mannar district under treasury grant project was commenced in Musali DS division. Under this, detail hydrogeological surveys were carried out and test tube wells were constructed in selected locations for the study. Pumping tests were carried out including water quality analysis. Well monitoring programme also conducted in two villages. The income was Rs. 0.8 million.



Figure 06:

**11.11.** To provide the details for environmental impact assessments, the hydrogeological surveys, pumping tests and well monitoring programmes were carried out in Northwestern province under industrial and other project areas. The reports were submitted to the Provincial Environmental Authority, Kurunegala including recommendations to minimize the environmental impact during the project activities. Under this surveys were commenced and submitted reports in rock quarries supply rock aggregates for road constructions, silica sand mines areas and waste water discharge from washing Plants. The income was Rs. 0.6 million.

**11.12.** The availability of good quality water in sufficient quantity is declining because of the increasing demand on groundwater resources and deterioration in groundwater quality in the Puttalam limestone aquifers recently. In Puttalam town supply, considering the trends of salinity in borehole waters, pumping of several wells were stopped and some were controlled by reducing the pumping rates. The study is to identify the source/mechanism of saline intrusion in to groundwater and to study the groundwater– seawater interaction. Therefore, Water Resources Board together with Atomic Energy Authority conducted this study. It was found that no sea water intrusion effect to the most of aquifer system in Puttalam area. The income was Rs. 0.6 million.

**11.13.** Long term pumping test was carried out at Vilaththawa, Bingiriya to provide the recommendations to start the water bottling project by using tube well. The income was Rs. 0.09 million.

**11.14.** Under the DSWRPP project in Kalpitiya, Puttalam and Vanathawilluwa areas hydrogeological studies were conducted by using 1-D", 2-D Resistivity Surveys. Well monitoring programme was carried out including water quality analysis and maps were prepaid. Test bore wells were constructed in selected areas including artesian well at Karathiu. Identified the respective areas for further study. The income was Rs. 1.4 million.



Figure 07:

**11.15.** Detail hydrogeological survey was conducted including geophysical surveys and water quality testing at Nainathiu (Nagadeepa Temple) island Jaffna to identify the groundwater potential areas.



Figure 08:

**11.16.** Laboratory facilities improved and new equipments reserved under the DSWRPP project to the Puttalam laboratory. This will help to check the quality of drinking water people use in the region. Also it will really helpful to conduct groundwater research activities in the region successfully.

**11.17.** The Shamadana camping were carried out to keep the office premises in decent way. In addition new plants were planted in office land.

## 12. Southern Province

The following activities were done by the Southern Provincial office located at Hambantota during 2012.

**12.1.** Hon. Speaker Chamal Rajapaksa and our chairman Mr. Bandula Munasingha requested to conduct a water supply scheme to the Galpoththayaya village. According to the requisition, a well cleaning works, yield test were conducted to the existing tube well in the Galpoththayaya village and submersible pump was successfully installed to

the well after removing the submersible pump from the abandoned tube well at Madamulana.

**12.2.** Participated to join inspection with Geological Survey and Mine Bureau for environmental impact of the Bolana area in Ambalantota when excavation of the sand mining and gave suggestion to reduce the ground water impact in the area.

**12.3.** Hydrogeological survey to find out impact of ground water due to the carry out of 3 no. of metal Cory site at Thithagalla in Ahangama area.

**12.4.** Hydrogeological survey in order to find out impact on Batuwantudawa spring due to the block out of 12 acres land by Access Company in the same area.

**12.5.** Ground water investigation, well construction, pumping test and chemical analyze of the water sample were done at southern highway site at Howpe.

**12.6.** Ground water investigation and report works for Mahaweli nursery at Embilipitiya. and Black pool hotel site at Nuwaraeliya.

**12.7.** Three Pumping test were done at Kotagala, Kuruwita and Omega line Vavuniya.

### 13. Uva Province

**13.1.** Following ground water investigation works, drilling and hand pump installation works were completed (Table 04) in Badulla district in 2012 under Dam safety project request and organize by Honorable Mr. Nimal Siripla De Silva Minister of Irrigation and Water Resources Management.



Figure 09:

Table 04: Groundwater survey locations

Passara Electorate			
Serial No.	Location of Ground water investigation	Recommendation	Remarks
1	Palgahathanna near the Nimal traders	Selected for hand pump	Drilled and hand pump installed
2	AGA office, Passara	Selected for hand pump	Drilled and hand pump installed

3	Central collage, Passara	Selected for hand pump	
4	Madawala School	Selected for hand pump	Drilled and hand pump installed
5	Ayurvedic hospital ,Lunugala	Selected for hand pump	
6	Paththini Devala, Sumudugama, Lunugala	Selected for hand pump	
7	3 <sup>rd</sup> mile post, Tolabogas watta, Passara	Selected for hand pump	Drilled and hand pump installed
8	3 <sup>rd</sup> mile post, Tolabogas watta, Passara	Selected for hand pump	
9	Walgolla school, Passara	Selected for hand pump	Drilled and hand pump installed
10	7 <sup>th</sup> mile post, Walibissa	Selected for hand pump	Drilled and hand pump installed
11	Hopton Kovil	Selected for hand pump	Drilled and hand pump installed
12	Sooriyagoda,Lunugala	Selected for hand pump	Rejected due narrow road
13	Sri Ramya Vijayaramaya, Hopton	Selected for hand pump	Drilled and hand pump installed
14	Tolabooowatta, near tea shakthi tea factory	Selected for hand pump	
<b>Badulla Electorate</b>			
15	Dharmadutha collage ,Badulla	Selected for hand pump	Drilled and hand pump installed
16	Sohana Junction, Ellearawa	Selected for hand pump	Drilled and hand pump installed
17	Nethragammanaya, Udawela	Selected for hand pump	
18	Walibissa, Badulla near Mr Chamindas house	Selected for hand pump	Rejected for drilling
19	Kadiration Kovila	Selected for hand pump	Drilled and hand pump installed
20	Damanwara Junction	Selected for hand pump	Rejected for drilling
21	Weeriyapura central part	Not Suitable for hand pump	
22	Badulusirigama near community center	Selected for hand pump	Rejected for drilling
23	Near Pitawalagama community center	Selected for hand pump	Drilled
24	Vinithagama, Viyadiguna	Selected for hand pump	Drilled and hand pump installed
25	Near Kandegedara school	Selected for hand pump	Drilled and hand pump installed
<b>Viyaluwa Electorate</b>			
26	Pussakanda, Kandeketiya	Selected for hand pump	Drilled and hand pump installed
<b>Badulla Electorate</b>			
27	Udawela School, 3 <sup>rd</sup> mile post	Selected for hand pump	
28	Dunuwangiya temple,Walikiemulla	Selected for hand pump	Drilled and hand pump installed
29	Kandana Janaudana village	Selected for hand pump	Drilled and hand pump installed
<b>Bandarawela Electorate</b>			
30	Subodanarama temple, Bandarawela	Selected for hand pump	
31	Aththalapitiya Idama, Thelihawewa	Selected for hand pump	
32	Thawalamthanna, Sapugasoloptha	Selected for hand pump	
33	Aluthgama comunitycenter, Bandarawela	Selected for hand pump	
<b>Haputale Electorate</b>			
34	Uvathanna village,Kalupahana	Selected for hand pump	Drilled and hand pump installed
35	Haputale ground	Selected for hand pump	Drilled and hand pump installed
36	Muniyandi kovil Haputale	Selected for hand pump	Drilled and hand pump installed
37	Uva Mahalanda,Haldumulla	Selected for hand pump	Drilled and hand pump installed
<b>Ridimaliyadda Electorate</b>			
38	Dambagahaulpotha,Anda ulpotha	Selected for hand pump	

<b>Lunugala Electorate</b>			
39	Aththanagolla Madama junction,Lunugala	Selected for hand pump	Drilled and hand pump installed
40	Sri Ramakrishna tamil Central collage	Selected for hand pump	Drilled and hand pump installed
41	Ola Lenagiri rajamaha vihara,Lunugala	Selected for hand pump	
42	Police station Lunugala	Selected for hand pump	Drilled and hand pump installed
43	Near Kumbukanoya Lunugala	Selected for hand pump	
<b>Bandarawela Electorate</b>			
44	Mahamevuna road, Halpe	Selected for hand pump	Drilled and hand pump installed
45	Central hospital, Hela Halpe	Selected for hand pump	Drilled and hand pump installed
46	Near the Maduwalpathana school	Selected for hand pump	
47	Bogahaella	Selected for hand pump	Drilled and hand pump installed
48	Kahaththewela school	Selected for hand pump	
<b>Welimada Electorate</b>			
49	Gruthalawa mosque	Selected for hand pump	
50	Udalakumbura prajashalawa	Selected for hand pump	
51	Himbatuwaldowa village	Selected for hand pump	
52	Rathanajothi school, Galedanda	Selected for hand pump	
53	Boragas Jumma Mosque	Rejected	

**13.2.** One day awareness programme regarding groundwater was conducted for the school children's at Wellawaya community center organize by Uva Provincial Council on world water day.

**13.3.** Following works have been done for the water treatment plant which was installed at Moneragala Hospital by Water Resources Board.

- i. Servicing of pump and well
- ii. Changing of filter sand
- iii. Preparation of well protection wall
- iv. Water testing in chemically and bacteriologically

**13.4.** Groundwater investigation were carried out at Mr. Disanayaka's land , Obbegoda, Moneragala and water supply scheme at Demeriya estate, Passara.

**13.5.** Groundwater surveys were carried out in order to locate the tube wells for the resettlement area at the Uma oya project Welimada and Demodara post office.

**13.6.** Groundwater study at Kumragam, Thanamalwila.

**13.7.** 18 no. of hand pumps were rehabilitated under funds provided by the ministry.

## **14. Eastern Province**

**14.1.** Groundwater investigations for supply of water for the newly constructing hotel sites at Pasikuda, Panichchancerni, Vakarai, Nilaweli, Kuchchawely and Dambulla.

**14.2.** Geophysical and hydrogeological surveys for the Thermal power project at Sampur, Muttur.

**14.3.** Groundwater surveys were done at Kiliweddi, Neelapola and Kuchchaweli (Kumuruppiddy) at Trincomalee district for supply of water for domestic preprocess funded by NW&SDB. 4 number of bore holes have been constructed at Neelapola and Kiliweddi area and 24 hours pumping test were conducted in order to find out aquifer parameters and safe yield. During the field survey we have selected 3 number of high yield dug wells at Kumbupuppiddi (Kuchchaweli) area and 24 hours pumping test have been carried out in the same wells in order to find out aquifer parameters and safe yield.

**14.4.** Groundwater surveys were carried out to recommend 3 no. of hand operated tube wells for Rambakanoya project in Mahaoya.

**14.5.** Groundwater survey for Kudumbigala Aranya Senasana at Kumana

## **15. GIS & Computer Unit**

### **15.1. Groundwater Atlas Project (Treasury funds)**

Main assignment completed in 2012 by GIS and Computer unit was Groundwater Atlas Project aiming to preparation of tube well location map for western province of Sri Lanka. The specific objectives of this project are: data collection, updating of current data base and gap filling and preparation of geochemical and hydro-chemical maps.

A complete field programme and updating of current data base were done in this regard during July 2011 to September 2012 and the data analysis and map preparation was done from September 2012 to December 2012. A separate report is furnished including the findings, results and recommendations of the study. Additionally, under this project, 32 nos. of 1: 50000 hard copy maps were purchased and hand it over to WRB library archives.

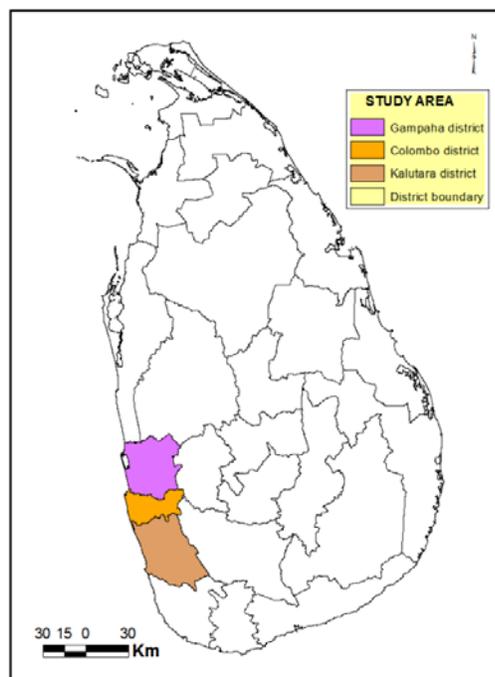


Figure 10: Location map of the study area

**15.2.** Preparation of GIS maps depicting present groundwater occurrence and quality in Sri Lanka when request for research studies and other duties.

**15.3.** Administration, maintaining and upgrading of computer network system in the WRB head office and facilitate computer to brows internet and the WRB server through a network system. Mainly following items are maintaining under GIS and Computer Unit: 44 nos. desktop computers, 13 nos. laptops, 28 nos. printers, scanner (A0, A4 sizes) and plotter (A0 size) and 2 nos. projectors.

## 16. Laboratory

### 16.1. Chemical, microbiological and heavy metal analysis

The water samples collected from various projects and private parties were analyzed by the laboratory of the Water Resources Boards and the year under review, 719 samples were analyzed chemically 32 samples were analyzed bacteriologically. 2887 samples were analyzed for heavy metals. Total income of the laboratory analysis was Rs. 18.9 million.

### 16.2. Laboratory equipment

As to strengthen the analytical capacity Rs. 14.87 million worth of following latest scientific equipment and chemicals purchased under Dam Safety and Water Resources Planning Project. These Laboratory items were used to established laboratories in Puttlam and Jaffna regional offices.

Table 05: Laboratory equipment received under DSWRPP project

No.	Instrument/Chemicals	Quantity
1	Fume cupboard	1
2	Atomic Absorption Spectrophotometer	1
3	UV/VIS Spectrophotometer	4
4	Bench – Top Conductivity meter	4
5	Water Still	4
6	Analytical Electronic Balance	4
7	Glassware, Plastic ware, Bottles, Pipette pumps, variable volume Micro pipettes.	Dozen for every item



Figure 11: (a) Atomic Absorption Spectrophotometer for heavy metal analysis



(b) Microbiology laboratory



Figure 12: (a) Chemical laboratory

(b) EC meter

## **17. Dam Safety and Water Resources Planning Project (DSWRPP), Component-2**

### **17.1. Purpose**

Over the past few decades, there have been three main state agencies involved in groundwater development in Sri Lanka. They are the Water Resources Board (WRB), National Water Supply and Drainage Board (NWS&DB) and the Agriculture Development Authority (ADA). In addition, a several private drilling companies and donor funded projects also have been engaged in the investigation and development of this resource. In terms of monitoring and data collection, these organizations collect data primarily for their own use although some is shared with other agencies and some is released to the public. However this collected data is mostly limited to deep wells. In most cases, the recorded information is not precisely defined and organized for the use of future purposes. No systematic groundwater monitoring network is in place in Sri Lanka resulting for not being identified potential threats and impacts to both spatially & time variant components of hydrogeological status of aquifers.

The agency responsible for groundwater management in Sri Lanka is Water Resources Board, which has mainly been engaged in planning and supervision of groundwater exploration and well drilling activities for public and industrial use of the ground water resources. Despite the fact that the WRB has a qualified staff, it has been identified that they must be provided with an external input for planning and implementing a sustainable ground water monitoring program. In this context, the DSWRPP has included a subcomponent for the establishment of long term monitoring network on selected pilot areas with necessary resources assistance and capacity improvement to the implementing agency i.e. WRB.

### **17.2. Objectives**

As a result of lack of proper groundwater management tools, the various issues that are currently being faced in the groundwater sector have driven authorities to seek for technical assistance in order to:

- i. Study the critical areas identified by the Water Resource Board (WRB) (approximately 4656 Sq km in 22 DS Division) where groundwater issues such as pollution and over extraction are reported.
- ii. Compile well documented and well organized information on the groundwater (GW) resources in five selected pilot area(s)
- iii. establish a groundwater monitoring network for the pilot area(s), using existing wells but adding new wells as and where required with detail water quality assessment
- iv. Systematically monitor and analyze groundwater quantity and quality in the pilot areas
- v. Disseminate the obtained knowledge on the groundwater, potentials, trends and issues among water users and authorities to create and increase awareness of the need for applying sustainable management and development of the groundwater resources.

On completion of planning for a sustainable monitoring network, the main task is to address the issues identified related to both ground water pollution and over-abstraction in many parts of the country. The pilot areas that have addressed initially are given in the Table 06.

Table 06: Pilot areas for groundwater monitoring program

Pilot area	Issues identified	DSD'S	District and Area (~ Km <sup>2</sup> )
Area 1	Bacteriological and Extensive Agriculture pollution	Jaffna, Nallur, Chavakachcheri, Pachchilaippallai (Kilinochchi district)	Jaffna peninsula, 650
Area 2	Extensive Agriculture	Kalpitiya	Puttalam, 168
Area 3	Over extraction of water from Agro wells	Dambulla, Gelewela, Laggala-Pallegama, Naula, Pallepola	Matale, 1200
Area 4	Kidney disease	Medawachchiya, Nuwaragampaltha(central), Kebithigollawa, Rambawewa, Horowpathana, Kahatagasgogiliya, Padaviya, Galenbindunuwewa	Anuradhapura, 1990
Area 5	Industrial pollution	Gampaha, Ja-ela, Wattala, Biyagama, Katana	Gampaha, 376
Area 6	Salinity	Puttalam, Vanathawillu	Puttalam, 1012
Area 7	Extensive Agriculture	Samanthurai, Ninthaur, Karathive, Adallachchnai	Ampara, 396
Area 8	Pollution in the central region (recharge zone)	All DSD's	Badulla District
<b>Total area</b>			<b>5,802</b>

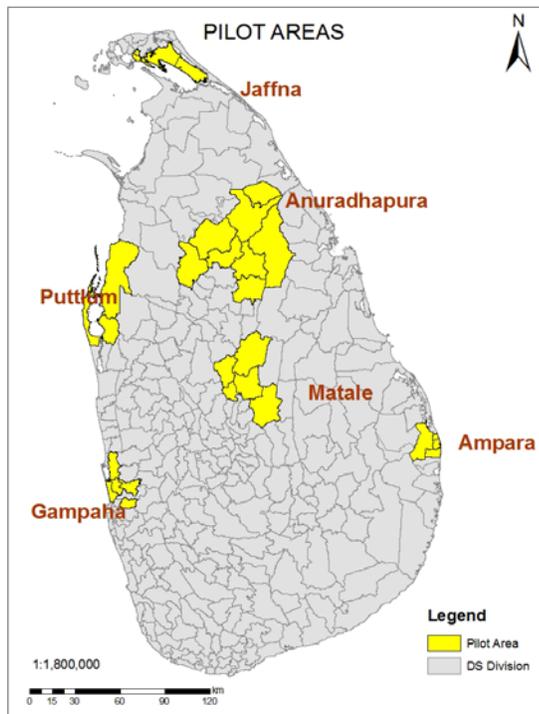


Figure 11: The pilot areas selected by WRB based on the available information for the establishment of Groundwater monitoring network

### 17.3. Progress up to 2012 December

During the assessment of spatio temporal water quality distribution and subsequent establishment of monitoring network, the approach for the each pilot area is initially worked into a scheduled plan as in the MOU. However, this entire work is on research basis and therefore depending on the result assessed during the work, the activities may vary and some time specifically require to address in detail. Despite the work plans are scheduled to timeline the activities, it may vary in the process of achieving a well established representative monitoring network.

### 17.4. Training under DSWRPP2

#### 17.4.1. Groundwater Modeling: September 24-28 @ HARTI, Colombo 07

There were two main case studies were developed from the available data and information for Mannar Giant tank area and Jaffna Point Pedro area. These models were possible to develop due to the training experience received from the first Groundwater Modeling Program. There are another two case studies were assigned to two workgroups created from the participants of 2<sup>nd</sup> Groundwater modeling Program. These outcomes are to be presented at the final groundwater modeling training program to be scheduled on January 2013. The following figures indicated the different stages of the model developed for the Mannar Giant tank area.

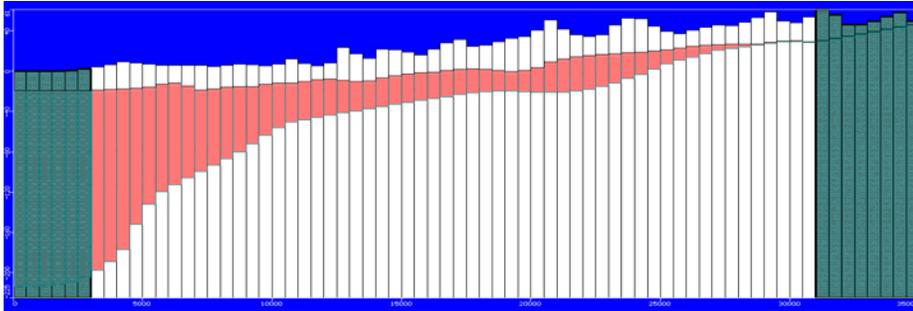


Figure 12: The conceptual model developed for the Mannar case study

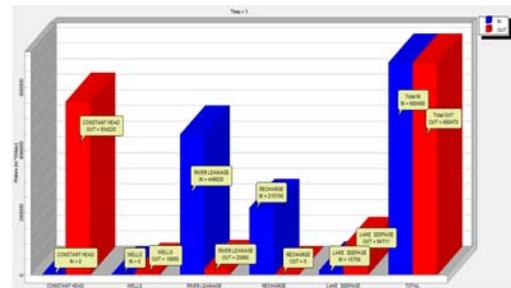


Figure 13: (a) The model generated flow regime map of the area

(b) The water budget for the model area

We have utilized the software “Visual MODFLOW” for this training and other model work received from DSWRPP.

The below photographs are shown some of the event of the 2<sup>nd</sup> Training program on “Development of Groundwater models for Sri Lanka”: 24-28<sup>th</sup> September 2012 at HARTI, Colombo 07. This was organized by DSWRPP, Water Resources Board & Hydrosult under Groundwater Monitoring Component of DSWRPP.

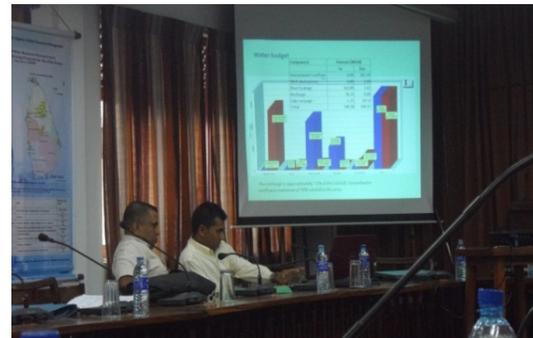


Figure 14: (a) Section of the participants from WRB, NWSDB and ID (b) Presentation of Case Studies of porgam-1

The all participants are presently engaged with the assigned case studies of Attanagalu Oya Basin and Puttalam region and it will be presented during the final groundwater modeling training program.

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### 17.4.2. 2D Geophysics

Instrument Training program on Earth Resistivity Tomography (ERT) / 2-D Imaging was carried out at Seminar Hall, Korakahawewa Research Centre, Water Resources Board on December 2011. The objective was to enhance the skills on 2D geophysics for groundwater prospecting for the professionals of WRB as well as NWSDB. Dr. Bradd, USA was participated as the resource person for the program.

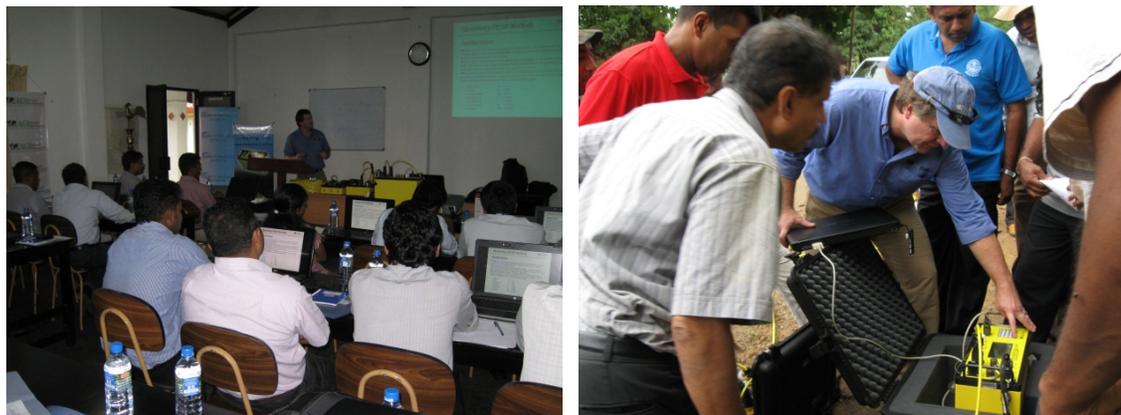


Figure 15: The section of participants and field training at Puttalam region.

This 2D resistivity equipment received from DSWRPP is presently been utilized well at the pilot areas to identify the subsurface condition relevant to groundwater (hydrogeology) as well as to interpret the possible seawater intrusions in the coastal areas.

The 2D Geophysics have performed in Gamapaha, Jaffna, Apura, Ampara and Puttalam pilot areas and still the activity is in progress.

### 17.4.3. DGPS training

The Leica GS10 equipment and other accessories were procured under DSWRPP for the selected well leveling process. The training was given by the supplier with the support of Survey Department and the program was held during December 2011. The Hydrogeologist assigned for DSWRPP2 work as well as other relevant WRB hydrogeologist were attended for this training. The below are some of the pictures of the training program held at Colombo.

The leveling process is in progress at pilot areas and the activity is slightly delayed due to unavailability of bench mark points with elevation established by Survey Department.



Figure 15: DGPS training and field activities at Colombo during December 2011 training program.

#### **17.4.4. GIS Training**

The spatial and temporal data management could be successfully implemented with the use of GIS. Further the map analysis and calculations could utilize to envisage such as spatial distribution of pollutants, comparison of variation in dry/wet years etc. The objective of this training program was to capacity build up at WRB hydrogeologists which would be benefitted in the process of achieving the research studies more effectively with the use of application based GIS. Advance certificate program on GIS at PGIS, University of Peradeniya were received for the WRB participants as well as DSWRPP officials during August 2012. This training was covered the most of the aspect on GIS application related to hydrogeology and other field applications as well. The program was continued as six days residential program.



Figure 16: The section of the participants during the GIS training, University of Peradeniya

#### **17.5. Field test kit for insitu chemical testing**

Field test kits for insitu chemical testing were procured under DSWRPP and the training was given by the supplier during November 2011. The all field test kits are utilized by the hydrogeologists for the selected pliot areas to measure the insitu basic chemical parameters such as EC, salinity, TDS, Nitrate level etc.



Figure 16: The photographs are shown the training received by the supplier in Colombo, November 2011

### 17.6. The groundwater monitoring network establishment

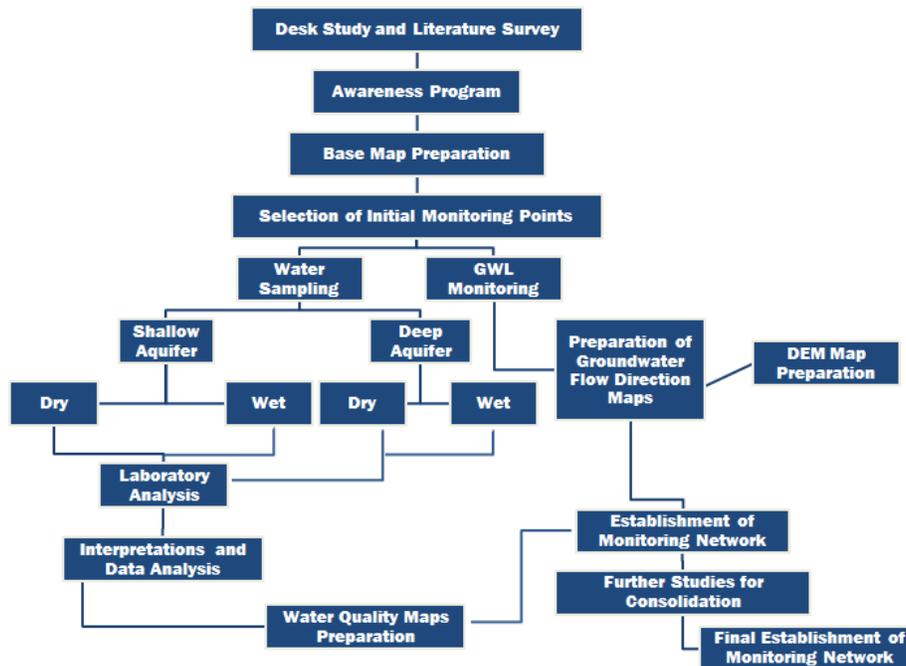


Figure 17: The common methodological approach for the pilot areas

During the monitoring network establishment basically the following activities are covered and they come under major tasks defined in the work plan.

- i. Well leveling
- ii. In situ chemical testing
- iii. Water sampling for chemical, heavy metal and bacteriological analysis
- iv. Water level monitoring
- v. Identified new test well locations by using 1D resistivity Survey
- vi. 2D resistivity surveys
- vii. Test well drilling
- viii. Test pumping

**17.7. Progress of major task assigned for each of the pilot area according to the work plan DSWRPP2**

Table 07: Activity Task 1

Activity	Description	Final output/outcome
Task 1	Development of Hydrogeological maps	Maps indicating chemical quality and aquifer productivity distribution for establishment of monitoring network
	a) Awareness program	
	b) Field activities	
	c) Preparation of base maps and final maps	
	d) Identification of data gaps and new sites for drilling for monitoring wells	

In each of the pilot area, the initial awareness programs were carried out to obtain different views and feedback from the stakeholders and decision makers in the area (NWSDB, CEA, ID, BOI etc.). Based on the outcome of these awareness programs, the activities or methodology were revised.



Figure 18: Gampaha District Secretary and the key participants for the initial awareness programs held at Gampaha area during June 2011

All of the preliminary Awareness programs were completed during April to June 2011 for each of the Pilot area. The field activities have almost completed for the preparation of base maps and final hydrogeological maps. At present, the consolidation process is on progress to identify any more issues and verify the selected monitoring points for the final network. The below figures are shown the prepared base maps and some of the final maps of Gampaha Pilot area. This has been performed to each of the pilot area.

The base maps prepared after the field activities at the pilot areas and final maps were prepared based on the result of chemical analysis (Task4). The **base map preparation and other final maps** of water quality distribution have already been completed in all of the pilot areas. The final maps may only be slightly changed depending on the result of the activities performed during the consolidation period.

The **identification for test well drilling** is already completed in the pilot areas and the no of wells selected as follows. The Geophysical surveys have already been completed in most of the areas.

Table 08: Test well drilling sites

Pilot Area	Identified locations	Geophysical surveys	Remark
Gampaha	12	12	Drilling completed -12
Ampara	07	07	To be drilled
Apura	10	04	Drilled 02 locations
Jaffna	08	08	To be drilled
Puttalam	05	05	Drilled 01 location
Mathale	08	03	To be drilled
Badulla	50	50	Drilled 42 locations

The Badulla district was also included in addition to the initially selected pilot areas since the area is highly important and potential groundwater recharge zone for the main aquifers in the lower mountain regions of the country as well as it contributed to the main river flow in the downstream areas. The lack of shallower water sources lead to construct 50 tube wells in Badulla to assess the water quality spatially.

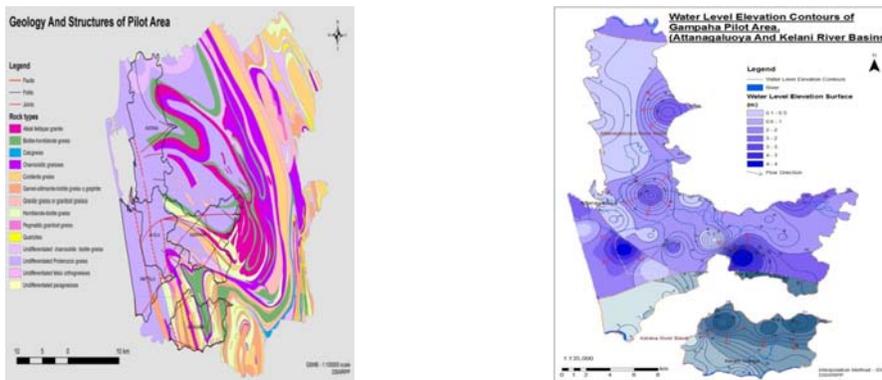


Figure 19: Base maps prepared for Gampaha pilot area

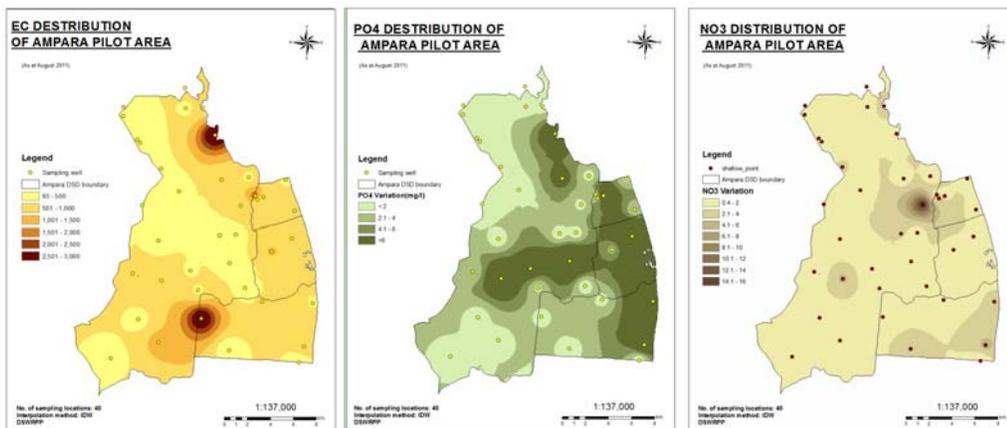


Figure 20: Some of the final maps prepared for the Ampara pilot area



Figure 21: ABEM SAS1000 equipment received from DSWRPP was utilized for 1D resistivity survey to identify the test well drilling locations

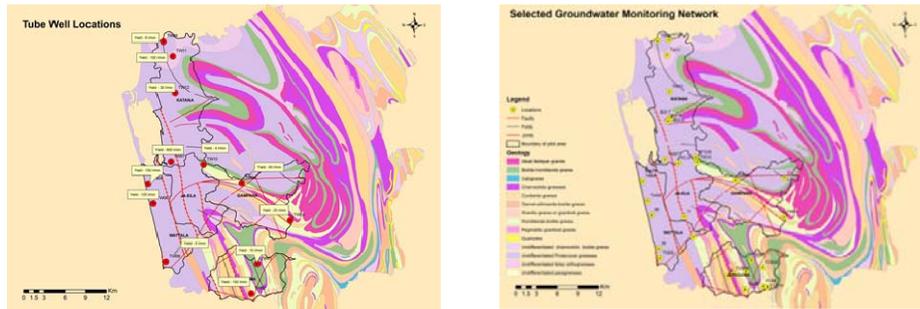


Figure 22: The identified test well drilling locations and selected monitoring network of the Gampaha plot area

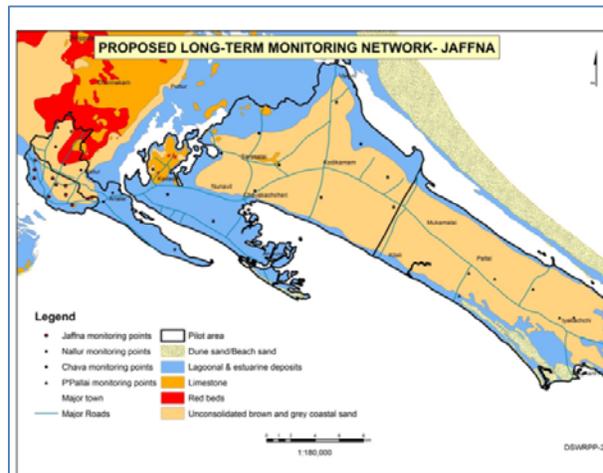


Figure 23: The finalized monitoring network for Jaffna Pilot area.

Table 09: Activity in Task 02

Activity	Description	Final output/outcome
Task 2	Well drilling and testing	Data for aquifer productivity maps
	a) Drilling of wells	
	b) Test pumping	

In the program, 100 nos. of test well Drilling was allocated. The additional Pilot area (Badulla District) was selected to assess the water quality in Badulla District. Locations were drilled to fill the gaps where the source wells are lack and focused to assess the

- Aquifer parameters,
- Water quality spatially and temporally
- Possible sea water intrusions



Figure 24: Test well drilling at Gampaha

Table 10: Test well drilling

Pilot Area	Identified locations	Geophysical surveys	Drilled locations
Gampaha	12	12	12
Ampara	07	07	To be drilled
Apura	10	04	02
Jaffna	08	08	To be drilled
Puttalam	05	05	01
Mathale	08	03	To be drilled
Badulla	50	50	42

The drilling has been delayed due to the unavailability of drilling machines at WRB since the machines are engaged with other ongoing projects. Once the drilling machine is procured under DSWRPP, the drilling activity could be stepped up.

### 17.8. Test pumping

The pumping tests are scheduled to carry out to determine the aquifer properties and the sustainability of the aquifer. The pumping tests on the shallower aquifer water sources (Dug wells) have carried out in the pilot areas and are in progress. However, the pumping tests on deeper aquifer are not yet started since the test wells are not completed. Therefore this activity could be accelerated once the drilling of wells completed.



Figure 25: The pumping tests at Iyyakachchi area under Jaffna Pilot area

Table 11: Pumping test

Pilot Area	Pumping tests allocated	Tests completed
Gampaha	06	02
Ampara	06	To be started
A'pura	06	To be started
Jaffna	06	05
Puttalam	06	01
Mathale	06	To be started

Table 12: Activity Task 4

Activity	Description	Final output/outcome
Task 4	Water quality sampling	
	a) Normal groundwater quality analysis - 600 samples	Data for Task-1
	b) Heavy metals analysis - 200 samples	
	c) Bacteriological analysis - 50 samples	
	d) Pesticide analysis- 100 samples	

The chemical analysis were carried out on the initial selected monitoring points in the pilot areas to assess the water chemistry of groundwater. In addition to the Task a, b, c and d, the in-situ testing was carried out to assess the water chemistry at the field itself where it was benefitted to plan out the work flow at the field.

The following table indicated the summary of the analysis procedure. Based on the result of the analysis, the final monitoring points were selected and the verifications are in progress under consolidation stage. This task4 output was utilized in the preparation final maps under Task1.

Table 13: Normal groundwater quality analysis - 600 samples

Pilot Area	No of samples allocated	Completed			Total Completed
		Dry period	Wet Period	Consolidation stage	
Gampaha	80	65	120	36	221
Ampara	90	59	80	24	163
Apura	80	138	138	15	291
Jaffna	90	92	70	38	200
Puttalam	80	36	54	38	128
Mathale	80	50	60	-	110
Badulla	80	33	-	-	33

Table 14: Heavy metals analysis - 200 samples

Pilot Area	No of samples allocated	Completed			Total Completed
		Dry period	Wet Period	Consolidation stage	
Gampaha	30	10	20	36	66
Ampara	30	10	12	24	48
Apura	30	30	30	06	66
Jaffna	30	10	18	12	40
Puttalam	30	15	08	-	23
Mathale	25	10	10	-	20
Badulla	25	25	-	-	25

Table 15: Bacteriological analysis - 50 samples

Pilot Area	No of samples allocated	Completed
Gampaha	10	10
Ampara	6	-
Apura	5	-
Jaffna	10	13
Puttalam	9	-
Mathale	05	-
Badulla	05	33

The bacteriological analysis has been delayed due to shortage of reagents from the supplier and once reagent received, the analysis is to be started in the areas located.

### 17.9. Pesticide analysis- 100 samples

These pesticides cannot be analyzed in WRB laboratories since the facilities are not available. Therefore the samples should be analyzed as an outsource process. Therefore the pesticide analysis is intentionally delayed to analyze once the monitoring network is at the final stage considering the high cost incurred for the process.



Figure 26: The below images are shown the field activities and in-situ chemical testing & groundwater level monitoring.

Table 16: Activity in Task 5

Activity	Description	Final output/outcome
Task 5	Additional work	Data for consolidation of monitoring network
	a) Leveling of wells(200)	
	b) 2D Geophysical survey	
	c) Additional test pumping(10)	

### 17.10 Leveling of wells

The selected monitoring points of the pilot areas are leveled to obtain the elevation using Differential GPS Leica GS10 equipment received under DSWRPP. The leveling process are in progress and the rest of the points to be leveled have delayed due to the unavailability of bench mark with elevation established by the Survey Department in certain pilot areas (Apura and Mathale). However, the alternative techniques are to be implemented in case of no bench mark points. The below table indicates the summary table of progress.

Table 17: Progress of levelling

Pilot Area	No of monitoring points established	No of leveling points completed
Gampaha	38	38
Ampara	24	24
Apura	38	Lack of established BM
Jaffna	38	38
Puttalam	38	12
Mathale	33	Lack of established BM
Badulla	33	Lack of established BM



Figure 27: The images taken during the leveling process at Jaffna Pilot area

### 17.10. 2D Geophysical survey

The 2D surveys were carried out using 8 Channel AGI resistivity meter with switching unit which capable to handle 112 electrodes received under DSWRPP. The 2D geophysics were carried out to assess the subsurface condition with respect to the hydrogeology, sea water intrusion etc. The below table indicated the allocated amount and the progress at present.

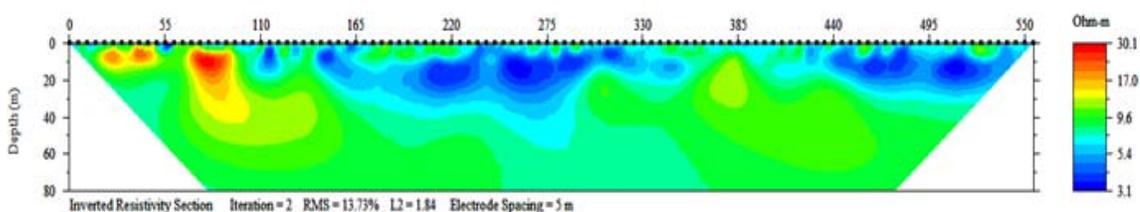


Figure 28: The above section interpreted from the raw data obtained from the 2D survey at Puttalam Pilot area which reveals the subsurface hydrostratigraphy as well as the possibility of any sea water intrusion.

Table 18: 2D survey allocation and completed

Pilot Area	No of 2D Geophysical surveys allocated (40)	No of surveys completed
Gampaha	6	5
Ampara	6	8
Apura	6	3
Jaffna	8	9
Puttalam	8	5
Mathale	6	-

Table 19: indicated the utilization status of the equipment received from DSWRPP for establishment of groundwater monitoring network.

No	Category	Item	Application	Utility
1	Software	a.) Aquachem	Chemical data analysis	These software are very frequently and widely utilized in the process of map preparation, processing and analysis work in each of the pilot areas under DSWRP project.
		b.) ArcGIS-Arcview	Map preparation, processing & analysis	
		c.) Aquichem	Aquifer test analysis (Groundwater analyt.software)	
		d.) Visual Modflow	Groundwater flow/ solute modeling	
		e.) Rockwork	Data analysis in wide range of techniques	
2	Computer & Printers			The each computer and printers are entirely utilized for the DSWRP project.
3	Field equipments	pH meters	This all equipment are used in the hydrogeological hydrochemical field activities	These equipments are assigned to respective hydrogeologists and continuously utilized in the field activities for head level measurements, insitu chemical testings.
		EC Meter		
		Dip Meters		
		Field test kits		
4	Navigation equip.	GPS	Coordinate acquisition	Each GPS points of the sampling locations are obtained with the use of GPS and the leveling process are in progress.
		DGPS	Use for levelling process	
5	Geophysical equipm	1D Resistivity meter	Use for all kind of hydrogeological explorations	1-D equipment is been used to locate the suitable site for test well drilling and 2-D instrument is used in the subsurface imaging & seawater intrusion visulization. This has already performed in Puttalam, Ampara, Gampaha, Jaffna, Apura Pilot areas.
		2D Resistivity meter		
6	Microbiological Lab. equipments			Utilized these lab equipments to eatbilished new laboratory at Jaffna Regional Office and the Jaffna sampling analysis are presently carried out st the Jaffna laboratory.
7	Chemical Laboratory Equipment			These chemicals, lab items and other all accessories were dispatched to regional offices of Puttalam, A'pura & Jaffna where the analysis had certain difficultes and presently without bringing samples to head office, the most of analysis are carried out at the regional offices.
8	Chemicals			
9	Furnitures			
10	Hammers and Bits			
11	Other accessories			

## 18. Drilling Division

In the year reviewed, 211 nos. tube wells were constructed and 10 nos. well cleaning were done, 6 nos. tube wells and 25 nos. hand pumps were rehabilitated and 66 nos. hand pumps were installed.

## 19. Construction Work

In the year 2012, the following construction work has been done

### 19.1. Head office

Rehabilitated Chairman's room, Working Director 's room and General Manager's room .

### 19.2. Provincial Office, Puttalam

New officer's quarter was built up to improve the accommodation facility

## 20. Workshop, Ratmalana

### 20.1. Minor repairs of vehicles

Minor repairs of the vehicles of the board were done at the Ratmalana workshop. Then 2 nos. repairs on lorries and around 30 nos. minor repairs were done of the board vehicle

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## **20.2. Drilling machine repair Unit**

Repair and maintenance of drilling machinery of the Water Resources Board was done by the drilling machine repair unit. In the past year, service and repair work of all drilling rigs and air compressors were done by this unit. Accordingly, 7 nos. repairs on drilling rigs and 4 no. repairs on air compressors were done.

## **20.3. Mechanical workshop**

In the year 2012, One wind mills was repaired and fabricated thirty seven well caps, two pump pedestals and twenty five name boards for the CN Project. Welding and fabricating works were also done in the Provincial office worker's rest room at Puttalam.

## **20.4. Vehicle service station**

During the year 2012, 122 nos. vehicles services were done at the Ratmalana WRB service station.

## **21. Internal Audit Division**

4 nos. of preliminary inquiries were conducted and inventories and payment vouchers were also checked In the year 2012

## **22. Finance**

The total income for the year concerned was. Rs. 77.35 million. For the year 2012, Rs 77.3 million as recurrent and Rs. 19.48 million as capital was received from the treasury. The deficit reported in the year was Rs. 43.8 million.

## **23. Administration**

The total number of staff of the Water Resources Board in the year 2012 was 260 nos. and 7nos. of which were working on contract basis. 15 nos. employees were worked on casual basis. In the year concerned, 11 nos. employees were recruited for permanent service. 6 nos. employees were recruited on contract basis and casual basis. In this year, 6 nos. employees were resigned and 6 employees were retired.

## **24. Human Resources Development**

An action was taken to direct the employees to the training courses, in order to improve the productivity of the board. 40 nos. employees including executive officers were directed to short training courses and one was directed to certificate course. 9 nos. employees were directed to workshops and seminars and one was directed to a foreign workshops.

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## **25. Welfare Facilities**

In the year concerned, under the welfare and death donation scheme, donated Rs. 0.07 million to the welfare society of the Water Resources Board as to provide transport facilities in a death and also to provide welfare facilities and Rs. 0.4 million was supplied to reimburse the expenses incurred for health facilities of the employees of the Board and their family members.

## **26. Fleet of Transport**

In the year concerned, the fleet of transport of the board was comprised with 44 nos. vehicles and out of which 33 nos. vehicles were in running condition. Those were mainly, cabs, cars, jeeps, lorries, tractors and cranes. In the year 2012 4 nos. double cabs were added into the fleet, one cab from the ministry of Irrigation & Water Resources Management (Moragahakanda Project) and other three from the ministry of the Finance and Planning.

## **27. Circuit Bungalow – Anuradhapura**

The purpose of maintaining the circuit bungalow was to provide accommodation for the officers of the Water Resources Board and the Ministry of Irrigation and Water Resources Management in their official tours and spending their leisure time. Addition to that, an action was taken to provide accommodation for other government officers and general public.

## **28. Buddhist Society**

The Buddhist Society of the Water Resources Board was initiated in 05<sup>th</sup> of May 1999. In the year 2012, action was taken to decorate the office premises commemorating the Vesak full moon day and Dansela and Dhamma sermon were organized for the Poson festival to commemorate the members who subjected to death after servicing in the board.

## **Acknowledgement**

The board is in pleasure to thank and place on record of appreciation to the Minister of Irrigation and Water Resources Management and Deputy Minister of the Ministry of Irrigation and Water Resources Management, Secretary, officers and staff of the same Ministry, all the officers and consultants of the other government departments, board and corporations, foreign and private institutions. The active involvement and the loyal service rendered by the employees of the Water Resources Board are highly acknowledged.

**Bandula Munasinghe**  
**Chairman**  
**Water Resources Board**  
**No. 2A, Hector Kobbekaduwa Mawatha,**  
**Colombo 07.**

21.02. 2013

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## WATER RESOURCES BOARD

### Statement of Comprehensive Income

For the Year ended	NOTE	2012	2011
		Rs'000	Rs'000
Revenue from Operating Activities	01	74,422	78,366
Treasury Grant - Recurrent		77,280	64,300
Treasury Grant - Capital	02	19,478	10,856
		<u>171,180</u>	<u>153,522</u>
Other Income	03	<u>3,931</u>	<u>1,794</u>
<b>Total Revenue</b>		<b>175,111</b>	<b>155,316</b>
Administrative Costs	4.1	(112,751)	(100,352)
Supplies & Requisites	4.2	(31,012)	(34,120)
Contractual Services & Maintenance expenses	4.3	(14,288)	(10,438)
Other Operating Expenses	4.4	(3,105)	(3,716)
Depreciation		(36,206)	(43,745)
Treasury Grant - Capital (Research Studies )	4.5	(22,407)	(10,855)
<b>Total Operating Expenses</b>		<b>(219,769)</b>	<b>(203,226)</b>
<b>Profit / (Loss) from Operations</b>		<b>(44,658)</b>	<b>(47,910)</b>
Finance Income		882	1,012
Finance Expenses		-	-
<b>Net Finance Income/ (Expenses)</b>		<u><b>882</b></u>	<u><b>1,012</b></u>

<b>Profit / (Loss) before Tax</b>	<b>(43,776)</b>	<b>(46,898)</b>
Tax	<u>(36)</u>	<u>-</u>
<b>Profit / (Loss) after Tax</b>	<b><u>(43,812)</u></b>	<b><u>(46,898)</u></b>
<b>Profit / (Loss) for the Period</b>	<b>(43,812)</b>	<b>(46,898)</b>
Other Comprehensive Income	-	-
<b>Total Comprehensive Income for the Period net of tax</b>	<b><u>(43,812)</u></b>	<b><u>(46,898)</u></b>

## WATAR RESOURCES BOARD

### Statement of Financial Position

As at	Note	2012	2011	As at 01 st
				January
		Rs'000	Rs'000	2011
				Rs'000
<b>ASSETS</b>				
<b>Non - current Assets</b>				
Property, Plant & Equipment	05	120,540	111,060	64,082
Work in Progress - (Machinery 2 KR Project)		42,909	46,167	50,959
		<b>163,449</b>	<b>157,227</b>	<b>115,041</b>
<b>Current Assets</b>				
Inventories	06	25,965	29,339	16,904
Trade and other receivables	07	22,741	13,748	14,356
Prepayments	08	291	44	40
Cash and cash equivalents	09	12,937	14,466	25,908
		<u>61,934</u>	<u>57,597</u>	<u>57,208</u>
		<u><b>225,383</b></u>	<u><b>214,824</b></u>	<u><b>172,249</b></u>
<b>TOTAL ASSETS</b>				

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**EQUITY & LIABILITIES****CAPITAL & RESERVES**

Accumulated Fund	10	179,801	179,601	174,761
Foreign Aid & Other Grants	10	237,341	206,542	129,825
Accumulated Profit / (Deficit)	10	(296,360)	(263,608)	(216,759)
Revaluation Reserve	10	3,989	3,989	3,776
		<u>          </u>	<u>          </u>	<u>          </u>
<b>TOTAL EQUITY</b>		<b>124,771</b>	<b>126,523</b>	<b>91,603</b>
		<u>          </u>	<u>          </u>	<u>          </u>
<b>Non Current Liabilities</b>				
Retirement Benefit Obligations	11	67,419	62,968	58,544
Staff Security Deposits	12	17	17	10
Payables		-	-	240
		<b>67,436</b>	<b>62,985</b>	<b>58,794</b>
<b>Current Liabilities</b>				
Trade Creditors	13	6,045	5,836	1,296
Other Provisions & Payables	14	5,994	6,706	4,652
Deferred Income (Advance for Service)	15	21,137	12,774	15,904
		<u>33,176</u>	<u>25,316</u>	<u>21,852</u>
<b>TOTAL LIABILITIES</b>		<b>100,612</b>	<b>88,301</b>	<b>80,646</b>
		<u>          </u>	<u>          </u>	<u>          </u>
<b>TOTAL EQUITY &amp; LIABILITIES</b>		<b>225,383</b>	<b>214,824</b>	<b>172,249</b>
		<u>          </u>	<u>          </u>	<u>          </u>

The Accounting Policies and the Notes from pages 05 To 14 Form on Integral part of these Financial

**Statements.**

The Directors are responsible for the preparation & presentation of the Financial Statements.  
Approved and Signed

for on behalf of the Board.

**Bandula Munasinghe**

**CHAIRMAN**

**Dr. G. S. A. Kodagoda**

**WORKING DIRECTOR**

## Statement of Changes in Equity

As 31<sup>st</sup> DECEMBER

Note : 10	Accumulated fund Rs'000	Foreign Aid Rs'000	Other Grants Rs'000	Revaluation Reserve Rs'000	Accumulated Profit/Deficit Rs'000	Total Rs'000
<b>Balance as at 01 st January 2011</b>	<b>174,761</b>	<b>37,622</b>	<b>92,203</b>	<b>3,776</b>	<b>(216,758)</b>	<b>91,604</b>
Profit/(Loss) for the period	-	-	-	-	(46,899)	(46,899)
Other Comprehensive Income	-	-	-	-	-	-
Contributions / Additions for the Year	4,890	-	76,717	-	-	81,607
Fixed Assests Written off	(50)	-	-	-	-	(50)
Net gains and losses not recognized in the Statement of financial performance				213	49	262
<b>Balance as at 31 st December 2011</b>	<b>179,601</b>	<b>37,622</b>	<b>168,920</b>	<b>3,989</b>	<b>(263,608)</b>	<b>126,524</b>
<b>Balance as at 01 st January 2012</b>	<b>179,601</b>	<b>37,622</b>	<b>168,920</b>	<b>3,989</b>	<b>(263,608)</b>	<b>126,524</b>
Profit/ (Loss) for the period	-	-	-	-	(43,812)	(43,812)
Other Comprehensive Income	-	-	-	-	-	-
Contributions/ Additions for the Year	200	-	30,799	-	-	30,999
Fixed Assests Written off	-	-	-	-	-	-
Net gains and losses not recognized in the Statement of financial performance	-	-	-	-	11,060	11,060
<b>Balance as at 31 st December 2012</b>	<b>179,801</b>	<b>37,622</b>	<b>199,719</b>	<b>3,989</b>	<b>(296,360)</b>	<b>124,771</b>
		(1)	(2)			

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**Foreign Aid/ Govt:Grant**

Jica	11,973
ADB & NWRA	1,025
Others	24,624
	<u>37,622</u>
	<u>(1)</u>

**Other Grants**

	Cost As At 31.12.2011	Additions For the	Cost As At 31.12.2012
Training Centre – AW& RS Project	1,290	-	1,290
Japanese 2KR Project	81,476	-	81,476
Amerasian Fund	1,771	-	1,771
DSWRPP Fund	83,450	30,634	114,084
CN Project	933	-	933
ATLAS Fund	-	5	5
MANNAR Fund	-	80	80
JAFFNA Fund	-	80	80
	<u>168,920</u>	<u>30,799</u>	<u>199,719</u>
	(4)	(3)	(2)

**CASH FLOW STATEMENT**

	<u>2012</u>		<u>2011</u>	
	Rs.'000	Rs.'000	Rs.'000	Rs.'000
<b><u>Cash Flows from Operating activities</u></b>				

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Profit for the year before interest income	-	(44,325)		(46,898)
<b>Add. / Less :</b> Prior year adjustment		-	1,060	1,060
Profit / Loss on sale of Fixed Assets	-	-	-	-
		<b>(44,325)</b>		<b>(45,838)</b>
<b>Add:</b> Depreciation	36,206		43,745	
Profit on sale of Fixed Assets	(3,050)		-	
Provision for Gratuity	8,483	41,639	7,051	50,797
<b>Operating Net Profit (Deficit)before changes in Working Capital</b>		<b>(2,686)</b>		<b>4,959</b>
<b>Changes in Working Capital</b>				
(Increase)/Decrease in Stocks	3,430		(12,434,)	
(Increase)/Decrease in Debtors	(8,993)		607	
(Increase)/Decrease in Prepayments	(247)		(3)	
(Increase)/Decrease in Payables	(479)		1,417	
Increase/(Decrease) in deferred Income	8,360		-	
(Increase)/Decrease in Accruals	-	<b>2,071</b>	1,813	<b>(8,600)</b>
<b>Net Cash Flows from Operating activities</b>		<b>(615)</b>		<b>(3,641)</b>
<b><u>Cash Flows from Investing activities</u></b>				
Purchase of fixed assets	(562)		(10,062)	
Proceeds on sale of fixed assets	3,050		-	
Payment of Gratuity	<u>(3,602)</u>		-	

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<b>Net Cash Flows from Investing activities</b>	<b>(1,114)</b>	<b>(10,062)</b>
<b><u>Cash Flows from Financing activities</u></b>		
Government Grant	<u>200</u>	<u>4,890</u>
<b>Net Cash Flows from Financing activities</b>	<b><u>200</u></b>	<b><u>4,890</u></b>
<b>Net Cash Flow for the year</b>	<b>(1,529)</b>	<b>(8,814)</b>
<b>Cash &amp; Cash Equivalents at beginning of the year</b>	<b>14,466</b>	<b>25,908</b>
<b>Cash &amp; Cash Equivalents at end of the year</b>	<b><u>12,937</u></b>	<b><u>17,094</u></b>
	<b>=====</b>	<b>=====</b>

## **ACCOUNTING POLICIES**

The principal accounting policies adopted in the preparation of the Financial Statements are set out below.

### **1. BASIS OF PREPARATION**

The financial statements are prepared on historical cost basis. Income and costs are accrued and recorded in the financial statements of the period to which they relate.

### **2. ASSETS AND BASES OF THEIR VALUATION**

#### **2.1 Property, Plant and Equipment**

Property Plant and equipment are recorded at cost less accumulated depreciation. The cost of property, plant and equipment is the cost of purchase / Revaluation or construction together with any incidental expenses thereon.

#### **2.2 Depreciation**

No depreciation is provided in the year of purchase or Revaluation and full years depreciation is provided in the year of disposal.

Depreciation is calculated so as to write off the cost / Revaluation of Fixe Assets on a straight-line basis over the expected useful lives of the Assets concerned. The principle annual rates used for this purpose are,

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Motor Vehicle	25%
Machinery, Tools and Equipments	20%
Laboratory Equipments	20%
Scientific Equipments	20%
Library Books	20%
Geophysical Maps	20%
Computers	20%
Furniture, Fitting and Office Equipments	10%
Temporary Buildings	331/3%
Building Improvements	331/3%
Machinery and Vehicle Improvements	331/3%

**03. INVENTORIES**

Inventories consist of vehicles spares, stores materials, machinery spares, fuel and other consumables. Inventories are valued at cost based on a **FIFO basis**.

**04. RECEIVABLES**

**1.1** Receivables are stated at the amounts they are estimated to realize.

**1.2** Bad and Doubtful Debts

The estimated losses to these debts are based on continuous review of all invoices and claims identified as bad and doubtful.

**05. LIABILITIES AND PROVISIONS**

All known liabilities as at the Balance Sheet date are included in the Financial Statements and adequate provision is made for liabilities which are known to exist but the amount of which cannot be determined accurately.

**06. DEFERRED LIBILITIES**

**6.1 Retirement Gratuity**

Provision is made in the Financial Statement for retiring gratuity, which may fall due for payment of Gratuity Act No. 12 of 1983. It is provided one half of the basic salary and statutory allowances for the last month of the financial year for each year of continuous service. This item is grouped under deferred liabilities in the Balance Sheet.

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**07. TAXATION**

**VALUE ADDED TAX**

Value Added tax is being paid on Cash Basis as the approval granted by the Commissioner of Inland Revenue.

**NOTES TO THE FINANCIAL STATEMENT.**

**REVENUE FROM OPERATING ACTIVITIES**

	<b>2012</b>	<b>2011</b>
<b>NOTE NO.1</b>	<b>Rs,000</b>	<b>Rs,000</b>
<b><u>HYDRO: INVESTIGATIONS / EXPLORATION</u></b>		
Hydrogeological Survey	10,653	4,617
Tube Well Construction	32,883	43,156
Hand Pump Installation	2,265	3,946
Pumping Tests	6,406	2,738
Tube Well Cleaning	1,121	2,522
Water Sample Analysis	985	1,835
<b><i>Sub total</i></b>	<b><u>54,313</u></b>	<b><u>58,814</u></b>
<b>GROUNDWATER MONITORING</b>		
Dam Safety & Water Resources Planning Project	17,044	4,978
<b><i>Sub total</i></b>	<b><u>17,044</u></b>	<b><u>4,978</u></b>
<b>GROUNDWATER DEVELOPMENT</b>		
Ground Water Development (MANRIP - JICA)	3,038	14,118
Wind Mills	-	110
Treatment Plant & Water Pollution Control	-	339
G.I.S. Income	27	7
<b><i>Sub total</i></b>	<b><u>3,065</u></b>	<b><u>14,574</u></b>
<b>GRAND TOTAL</b>	<b><u>74,422</u></b>	<b><u>78,366</u></b>

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**NOTE NO:02**

**TREASURY GRANT - CAPITAL**

(RESEARCH STUDIES - OPERATIONAL)

Awareness Programs/Water Analysis(A'Pura)	-	1,994
Staff Training	59	291
Hydrogeological coastal study in Colombo to Negombo	7,707	7,367
Study in water quality changes in aquifer system - A'pura	5,866	1,150
Isotopes studies in Puttlam Aquifers	192	33
Atlas Collection Maps	128	21
Rehabilitation & Improvement Income	523	-
Hydrogeological study in limes aquifer in Mannar	2,996	-
Jaffna Ground water Monitoring	694	-
Hydrogeological study in Vavunia & Kilinochchi	1,313	
<b>Total</b>	<b>19,475</b>	<b>10,856</b>

**NOTE NO: 03**

**OTHER INCOME**

Circuit Bungalow Reservation	124	105
Fine & Surcharges	157	1,178
Korakahawewa Farm Income	-	1
Sundry Income	200	331
Dayata Kirula	400	179
Disposal Income	3,050	-
<b>TOTAL</b>	<b>3,931</b>	<b>1,794</b>

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**Finance Income**

Interests on Loans & Bank Deposits	<u>882</u>	<u>1,012</u>
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**NOTES TO THE FINANCIAL STATEMENTS CONTD.**

	<b>2012</b>	<b>2011</b>
	<b>Rs,000</b>	<b>Rs,000</b>
<b>NOTE NO. 4 : 1 ADMINISTRATIVE COSTS</b>		
Salaries & Wages	82,270	71,546
Overtime & Holiday Pay	6,415	6,259
Employees Provident Fund - 12%	6,224	5,867
Employees Trust Fund – 3%	1,556	1,467
Director's Fees	768	404
Other Allowances	17	33
Gratuity	8,053	7,025
Traveling - Local	6,776	6,882
Traveling - Overseas	58	-
Welfare & Sports facilities	68	294
Medical Scheme	433	375
Entertainment	93	191
Vacation Leave Encashment	<u>20</u>	<u>9</u>
<b>TOTAL</b>	<b><u>112,751</u></b>	<b><u>100,352</u></b>

**NOTE NO. 4 : 2 SUPPLIES & REQUISITES**

Fuel & Lubricant	20,864	14,155
Drilling Works Consumables	7,486	18,373
Laboratory Consumables & Others	2,253	1,219
Other Consumables	<u>409</u>	<u>373</u>
<b>TOTAL</b>	<b>31,012</b>	<b>34,120</b>

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**NOTE NO. 4 : 3 CONTRACTUAL SERVICES & MAINTENANCE EXPENSES**

Postage & Telecommunication	1,089	960
Electricity	1,783	1,350
Rent, Rates & Taxes	936	667
Cash in Transit Insurance	11	11
Audit Fees	150	158
Printing & Publications	410	171
Workshop & Seminars	22	18
Water Bills	146	74
Consultancy Charges	55	44
Sundry Expenses	268	298
Maintenance of Motor Vehicle	5,017	4,149
Maintenance of Machinery	1,097	1,276
Maintenance of Office Equipments	1,026	660
Maintenance of Buildings	2,278	602
<b>TOTAL</b>	<b>14,288</b>	<b>10,438</b>

**NOTE NO. 4.4 OTHER OPERATING EXPENSES**

Stationery & Office Requisites	1,224	205
Uniforms	182	348
Periodicals & Newspapers	119	90
Publicity & Advertising Expenses	136	472
Bank Charges	77	119
Medical Test Charges	36	27
Legal Expenses	14	277
Fines & Surcharges	7	24
Bad Debts	-	1,013
Economic Service Charges (ESC)	267	557
Stamp Duty	7	5
Vehicle Service – Ratmalana	318	156
Hiring Charges	29	133
Training Centre Expenditure (A'pura)	271	111
Dayata Kirula Expenses	418	179
<b>TOTAL</b>	<b>3,105</b>	<b>3,716</b>

**NOTES TO THE FINANCIAL STATEMENTS CONTD**

	2012	2011
	Rs'000	Rs'000
<b>NOTE NO. 4 : 5 TREASURY GRANT – CAPITAL (Research Studies)</b>		
<b>HYDROGEOLOGICAL COASTAL STUDY IN COLOMBO TO NEGOMBO</b>		
Salaries & Wages	329	1,177
Employees Provident Fund - 12%	-	74
Employees Trust Fund – 3%	-	18
Overtime & Holiday Pay	450	115
Traveling	702	148
Stationery & Office Requisites	7	1
Fuel & Lubricant	1,552	875
Publicity & Advertising Expenses	-	21
Ground water Other	24	1
Drilling Work Consumable	4,064	4,764
Maint. Of Motor Vehicles	174	21
Maint. Of Machinery	132	4
Maint. Of Lab. Equipment	1,491	9
Maint. Of Buildings	2	1
Postage & Telecommunication	16	17
Sundry Expenses	6	-
Rent, Rates & Taxes	130	120
Office Equipment Maint. & Repairs	28	-
<b>Sub Total</b>	<b>9,107</b>	<b>7,366</b>
<b>AWARENESS PROGRAMMS / WATER ANALYSIS ( A' PURA)</b>		
Salaries & Wages	-	80
Employees Provident Fund - 12%	-	6
Employees Trust Fund – 3%	-	2
Overtime & Holiday Pay	-	230
Traveling	-	99
	-	176
Fuel & Lubricant		
Training Centre Expenditure (A'pura)	-	1,144
Maint. Of Buildings	-	13
Office Equipment Maint.& Repairs	-	23

Maint. Of Lab. Equipment	-	72
Groundwater Other	-	121
Drilling Work Consumable	-	28
<b>Sub Total</b>	-	<b>1,994</b>

**STUDY IN WATER QUALITY CHANGES IN AQUIFER SYSTEM - A'PURA**

Salaries & Wages	-	578
Employees Provident Fund - 12%	-	45
Employees Trust Fund – 3%	-	11
Overtime & Holiday Pay	384	39
Traveling	246	61
Fuel & Lubricant	1,167	127
Maint. Of Lab. Equipment	964	238
Maint. Of Motor Vehicles	247	51
Drilling Work Consumable	2,831	-
Groundwater Other	2	-
Rent, Rates & Taxes	21	-
Maint. Of Machinery	86	-
Office Equipment Maint.& Repairs	78	-
Entertainment	55	-
Training Centre Expenditure(A,pura)	229	-
<b>Sub Total</b>	<b>6,310</b>	<b>1,150</b>

**ATLAS COLLECTION MAPS**

Overtime & Holiday Pay	11	4
Traveling	22	17
Stationery & Office Requisites	2	-
Fuel & Lubricant	96	-
Sundry Expenses	1	-
<b>Sub Total</b>	<b>132</b>	<b>21</b>

**NOTES TO THE FINANCIAL STATEMENTS CONTD**

<b>NOTES TO THE FINANCIAL GRANTS - CAPITA (Research Studies)</b>	<b>2012</b>	<b>2011</b>
	<b>Rs'000</b>	<b>Rs'000</b>

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**ISOTOPES STUDIES IN PUTTLAM AQUIFERS**

Overtime & Holiday Pay	7	10
Traveling	23	23
Maint. Of Lab. Equipment	162	-
<b><i>Sub Total</i></b>	<b>192</b>	<b>33</b>

**HYDROGEOLOGICAL STUDY IN LIMESTONES AQUIFERS IN****MANNAR DISTRICT**

Salaries & Wages	10	-
Overtime & Holiday Pay	225	-
Traveling	271	-
Stationery & Office Requisites	1	-
Fuel & Lubricant	317	-
Drilling Work Consumable	2,225	-
Groundwater Other	2	-
Uniforms	2	-
Rent, Rates & Taxes	30	-
Maint. Of Lab. Equipments	250	-
Maint. Of Motor Vehicles	31	-
Maint. Of Machinery	26	-
Entertainment	21	-
<b><i>Sub Total</i></b>	<b>3,411</b>	<b>-</b>

**JAFFNA GROUND WATER MONITORING**

Overtime & Holiday Pay	9	-
Traveling	45	-
	8	-
Stationery & Office Requisites		
Fuel & Lubricant	165	-
Drilling Work Consumable	123	-
Groundwater Other	2	-
Rent, Rates & Taxes	47	-
Salaries & Wages	4	-

Maint. Of Motor Vehicles	43	-
Maint. Of Machinery	164	-
Office Equipment Maint. & Repairs	27	-
Maint. Of Buildings	21	-
Entertainment	5	-
Maint. Of Lab. Equipments	24	-
<b>Sub Total</b>	<b>687</b>	<b>-</b>

**HYDROGEOLOGICAL STUDY IN VAVUNIA & KILINCHCHI**

Drilling Work Consumable	1,312	-
<b>Sub Total</b>	<b>1,312</b>	<b>-</b>

**STAFF TRAINING**

Workshop & Seminars	174	291
<b>Sub total</b>	<b>174</b>	<b>291</b>

Rehabilitation & Improvement	1,082	-
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**GRAND TOTAL** **22,407** **10,855**

**NOTES TO THE FINANCIAL STATEMENTS CONTD**

**PROPERTY, PLANT & EQUIPMENT**

**NOTE : 05**

<u>Item</u>	Cost/Valuation As at 01.01.2012 Rs'000	Additions For the Year Rs'000	Disposal Adjustments Rs'000	Cost/Valuation As at 31.12.2012 Rs'000
Lands	714	170	-	884
Leased Property	-	1,218	-	1,218
Motor Vehicle	93,909	-	(2,197)	91,712
Machinery, Tools and Equipments	232,508	10	-	232,518
Laboratory Equipments	47,808	26,785	-	74,593
Furniture, Fittings and Office Equipments	13,713	705	-	14,418
Computers & Accessories	7,208	1,658	-	8,866

Scientific Equipments	31,057	-	-	31,057
Geological Maps	1,507	679	-	2,186
Building Improvements	3,646	-	(1,480)	2,166
Machinery & Vehicles Improvements	13,191	3,258	(7,865)	8,584
Improvement of Computers	8,406	-	(2,821)	5,585
<b>TOTAL</b>	<b>453,667</b>	<b>34,483</b>	<b>(14,363)</b>	<b>473,787</b>

<u>Depreciation</u>	Balance	Charges	Disposal	Balance
	As at 01.01.2012 Rs'000	For the Year Rs'000	Adjustments Rs'000	As at 31.12.2012 Rs'000
Motor Vehicle	71,005	6,989	(1,425)	76,569
Machinery, Tools and Equipments	225,104	1,664	-	226,768
Laboratory Equipments	19,406	7,883	-	27,289
Furniture, Fittings and Office Equipments	7,785	729	-	8,514
Computers & Accessories	4,633	786	-	5,419
Scientific Equipments	2,626	5,687	-	8,313
Geological Maps	74	301	-	375
<b>TOTAL</b>	<b>330,633</b>	<b>24,039</b>	<b>(1,425)</b>	<b>353,247</b>
<b><u>NET BOOK VALUE</u></b>	<b>123,033</b>			<b>120,540</b>

**Note: 01.**

Details of the Land & Buildings which are utilizing of the Board without having legal ownership as at 31.12.2012 are as follows.

LAND	BUILDINGS (Appox)
Head Office	8477 Sq.ft
Work Shop at Rathmalana	32960Sq.ft
Circuit Bungalow at Anuradhapura	3038 Sq.ft
Regional Office at Moneragala	1805 Sq.ft
Regional Office at Hambantota	1474 Sq.ft
Work Site at Vauniya	1082 Sq.ft

**02.**

04 Nos of Motor Vehicles (Double Cabs) granted from General Treasury in year 2012 have not been valued. (Vehicle Nos. PB-0623, PE- 3448, PD-5851, PD-5856)

**NOTES TO THE FINANCIAL STATEMENTS CONTD;****NOTE: 06**

INVENTORIES	2012	2011	As at 01 st January 2011
	Rs'000	Rs'000	Rs'000
<b><u>MATERIALS &amp; SPARES</u></b>			
Vehicle Spares	985	1,151	709
Fuel & Lubricants	2,728	299	448
Fuel & Lubricants - CN PROJECT	-	313	-
Stores materials	12,354	15,975	8,161
Stores materials - CN PROJECT	504	2,424	-
Building Maintenance	143	394	386
Stationery	208	307	194
Machinery Spares	7,106	6,519	6,911
Office Equip Maintenance	-	77	95
Laboratory	634	1,881	-
Stores materials - MANNAR PROJECT	1,193	-	-
Stores materials - JAFFNA PROJECT	110	-	-
<b>TOTAL</b>	<b>25,965</b>	<b>29,339</b>	<b>16,904</b>

**NOTE : 07****TRADE & OTHER RECEIVABLES****STAFF**

(01) Book Advance	-	-	330
(02) Distress Loan	11,040	7,185	5,496
(03) Festival Advance	228	212	233
(04) Traveling Advance	214	47	120
(05) Cycle Loan	5	33	98
(06) Staff Debtors	112	205	165

(07) Special Advance	61	-	-
(08) Treasury Grant Receivable	4,934	-	-
<b>Sub Total</b>	<b>16,594</b>	<b>7,682</b>	<b>6,442</b>

#### OTHERS

(08) Trade	3,970	1,826	5,385
(09) Deposits	60	60	160
(10) Advances to suppliers	87	141	101
(11) Retention Money	444	2,131	900
(12) With Holding Tax Receivable	1,462	1,462	1,443
(13) Bank Guarantee	396	54	469
(14) DSWRPP Receivable	-	741	-
(15) Other Debtors	2	-	-
(16) Fuel Deposits	212	-	-
<b>Sub Total</b>	<b>6,633</b>	<b>6,414</b>	<b>8,458</b>

**TOTAL RECEIVABLES** **23,227** **14,096** **14,900**

(17) Less: V.A.T. Payable- Retention	-	(9)	(7)
(18) Less: V.A.T. Payable	(486)	(338)	(537)
<b>TOTAL</b>	<b>22,741</b>	<b>13,748</b>	<b>14,356</b>

#### NOTES TO THE FINANCIAL STATEMENTS CONTD:

##### NOTE NO:08

		As at 01 st January	
PRE-PAYMENTS	2012 Rs'000	2011 Rs'000	2011 Rs'000
Staff Insurance	-	8	8
Newspapers & Periodicals	26	20	30
Maintenance of Office Equipment	8	-	2
Urban Council - Puttlam - Rate & Taxes	200	16	-
Maintenance Of Motor Vehicles	54	-	-
Postage & Telecommunication	3	-	-
<b>TOTAL</b>	<b>291</b>	<b>44</b>	<b>40</b>

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**NOTE NO : 09****CASH & CASH EQUIVALENTS**

(1) Bank of Ceylon York Street Branch (0002026295)	10	557	2,228
(2) Bank of Ceylon Torrington Branch (0002322267)	1,218	2,559	844
(3) Bank of Ceylon Torrington Branch (0002322268)	19	51	34
(4) Bank of Ceylon Torrington Branch (0005342839)	52	349	259
(5) Bank of Ceylon Jaffna Branch (19860)	-	-	7
(6) National Savings Bank - Bambalapitiya (100230211818)	11,626	10,938	22,531
(7) National Savings Bank - Borella (1-0061-03-31236)	11	10	4
(8) National Savings Bank - Borella (1-0061-03-31287)	1	2	1
<b>TOTAL</b>	<b>12,937</b>	<b>14,466</b>	<b>25,908</b>

**NOTE NO:10**

Please see Page No.03 for Statement of Changes in Equity

**NOTE NO:11****DEFERRED LIABILITIES****Retirement Benefit Obligations**

The Amounts recognized in the Balance Sheet are as follows.

At Beginning of the year	62,968	58,544	61,765
Add:- Transfer - JV- 40	-	26	-
Charge / Credit for the year	8,053	7,025	310
Contribution Paid	(3,602)	(2,627)	(3,531)
At end of the year	<b>67,419</b>	<b>62,968</b>	<b>58,544</b>

**NOTE NO: 12****SECURITY DEPOSITS**

		<b>Initial Deposit</b>			
(1)	Mr. W.P.S.Gunethilake - Cashier	<b>3,500</b>	10	10	3
(2)	Mr. K.A.Wimal - Store Keeper	<b>500</b>	2	2	1
(3)	Mr. N. Wicramasinghe - Canteen	<b>5,000</b>	5	5	5
(4)	Mr. Wimal Amarasinghe - Store Keeper	-	-	-	1
	<b>TOTAL</b>	<b>9,000</b>	<b>17</b>	<b>17</b>	<b>10</b>

**NOTE NO: 13 TRADE CREDITORS**

	<b>NAME</b>	<b>2012 Rs'000</b>
<b>01</b>	Sri Lanka Customs	<b>619</b>
<b>02</b>	Municipal Council - Hambantota	<b>6</b>
<b>03</b>	Dahanayaka Motors (Pvt) Ltd	<b>9</b>
<b>04</b>	Isuru Motor Spares	<b>11</b>
<b>05</b>	Air Cool Air Conditioning Center	<b>18</b>
<b>06</b>	Badulla Multi Purpose Co-operative	<b>23</b>
<b>07</b>	Organic Trading (Pvt) Ltd	<b>23</b>
<b>08</b>	J.R.S Motor Traders	<b>27</b>
<b>09</b>	Pamankada Aluminium Industries	<b>48</b>
<b>10</b>	S.P.S & Company	<b>54</b>
<b>11</b>	A.M Nijam	<b>345</b>
<b>12</b>	Aiken (Pvt) Ltd	<b>1,313</b>
<b>13</b>	Central Industries PLC	<b>1,325</b>
<b>14</b>	Analytical Instruments (Pvt) Ltd.	<b>2,224</b>
	<b>TOTAL</b>	<b>6,045</b>

**NOTE NO:14 OTHER PROVISIONS & PAYABLES**

	<b>2012 Rs'000</b>	<b>2011 Rs'000</b>	<b>2011 Rs'000</b>
(1) Staff			

1:1 Staff Creditors	26	10	10
1:2 Treasury Grant-Staff Training	-	9	-
1:3 Unclaimed Wages	9	-	14
1:4 Treasury Grant - Atlas Collection	-	8	-
1:5 Treasury Grant - ISP Project	-	17	-
1:6 DSWRPP Project	430	-	-
<b>Sub Total (1:1- 1:6)</b>	<b>465</b>	<b>44</b>	<b>24</b>
(2) Provision for Audit Fees	384	369	218
(3) Retention Payable	51	119	19
(4) E.P.F 10%	(13)	1	-
(5) Accrued Expenses	5,136	6,565	4,519
<b>Sub Total (2-)</b>	<b>5,558</b>	<b>7,054</b>	<b>4,756</b>
(6) Less : V.A.T Cash	(29)	(6)	-
(7) Less : V.A.T Receivable	-	(386)	(128)
	<u><b>5,994</b></u>	<u><b>6,706</b></u>	<u><b>4,652</b></u>

**NOTE NO:15 Deferred Income**

Service Advance	<u><b>21,137</b></u>	<u><b>12,774</b></u>	<u><b>15,904</b></u>
-----------------	----------------------	----------------------	----------------------

ACCRUED EXPENSES	2012 Rs'000	2011 Rs'000	As at 01 st
			January 2011 Rs'000
Salaries & Wages	422	295	182
Traveling & Subsistence	764	540	512
Overtime / Holiday Pay	741	704	392
Telephone	166	100	58
Fuel	837	41	204

Maint. of Motor Vehicles	10	110	75
Maint. of Machinery	159	171	-
Stationery	1	34	1
Maint. of Office Equipment	-	43	21
Consultancy charges	5	5	3
Electricity	186	129	88
Rent	9	51	15
Korakahawewa Centre	1	2	-
Drilling Works Consumables	9	1,278	141
Ground Water other Expenses	3	1	2
Bank Charges	-	-	2
Water Bills	9	14	7
Entertainment	1	2	4
News Papers	2	2	5
E. P. F. 10%	435	428	398
E. P. F. 12%	522	513	489
E. T. F. 3%	130	128	122
Sundry Expenses	1	6	11
Medical	40	43	2
Stamp Duty	12	10	9
Maintenance of Buildings	1	-	1
VAT Cash	8	174	61
VAT Cash	532	1,523	961
Economics Service Charges	-	-	130
Bid Bond & Refundable Deposit	-	-	5
Computer & Accessories	-	-	7
Gratuity	-	-	261
Staff Insurance	-	-	7
Lab Equipments	-	14	90
Lab Maintenance	15	77	9
Labour Charges	4	-	16
Publicity	-	14	3
Vehicle Service - Ratmalana	-	-	190

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Welfare Expenditure	12	8	32
Traveling Advance	-	3	3
Director Fees	58	65	-
Legal Charges	-	30	-
Medical Test Charges	3	2	-
Payee Tax	16	2	-
Service Advance	-	3	-
Hiring Charge	2	-	-
Vacation Leave Enhancement	12	-	-
Uniform	8	-	-
<b>TOTAL</b>	<b><u>5,136</u></b>	<b><u>6,565</u></b>	<b><u>4,519</u></b>



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கணக்காய்வாளர் தலைமை அறிபுதி திணைக்களம்  
**AUDITOR GENERAL'S DEPARTMENT**



මගේ අංකය  
எனது இல  
My No

LP/B/2012/40

ඔබේ අංකය  
உமது இல  
Your No.

දිනය  
திகதி  
Dat

22 January 2014

LP/B/2012/40

22 January 2014

The Chairman  
Water Resources Board

**Report of the Auditor General on the Financial Statements of the Water Resources Board  
for the year ended 31 December 2012 in terms of section 14(2)(c) of the Finance Act,  
No. 38 of 1971.**

The English version of the above mentioned report is sent herewith.

H.A.S. Samaraweera  
Auditor General

Copies to : (1) The Secretary, Ministry of Finance and Planning

(2) The Secretary, Ministry of Irrigation and Water Resources Management

අංක 306/72 පොල්දූව පාර,  
බත්තරමුල්ල, ශ්‍රී ලංකාව

දුරකථනය  
தொலைபேசி  
Telephone } 2887028 -34

இல. 306/72, பொல்துவ வீதி,  
பத்தரமுல்லை இலங்கை

ෆැක්ස් අංකය  
பகல் இல  
Fax No. } 2887223

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Battaramulla, Sri Lanka

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විගණකාධිපති දෙපාර්තමේන්තුව  
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Your No.

දිනය  
திகதி  
Dat

22 January 2014

P/B/2012/40

22 January 2014

The Chairman  
Water Resources Board.

**Report of the Auditor General on the Financial Statements of the Water Resources Board**

**for the year ended 31 December 2012 in terms of Section 14(2) (c) of the**

**Finance Act, No. 38 of 1971**

The audit of financial statements of the Water Resources Board for the year ended 31 December 2012 comprising the statement of financial position as at 31 December 2012 and the statement of comprehensive income, statement of changes in equity and cash flow statement for the year then ended and a summary of significant accounting policies and other explanatory information, was carried out under my direction in pursuance of provisions in Article 154(1) of the Constitution of the Democratic Socialist Republic of Sri Lanka read in conjunction with the Section 13(1) of the Finance Act, No. 38 of 1971 and Section 17(2) of the Water Resources Board Act No. 29 of 1964. My comments and observations which I consider should be published with the annual report of the Board in terms of Section 14(7)(a) of the Finance Act was issued to the Chairman of the Board on 07 October 2013.

**1:2 Management's Responsibility for the Financial Statements**

Management is responsible for the preparation and fair presentation of these financial statements in accordance with Sri Lanka Accounting Standards and for such internal control as the management determines is necessary to enable the preparation of financial statements that are free from material misstatements, whether due to fraud or error.

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1:3 **Auditor's Responsibility**

My responsibility is to express an opinion on these financial statements based on my audit. I conducted my audit in accordance with Sri Lanka Auditing Standards. These Standards require that I comply with ethical requirements and plan and perform the audit to obtain reasonable assurance about whether the financial statements are free from material misstatements.

An audit involves performing procedures to obtain audit evidence about the amounts and disclosures in the financial statements. The procedures selected depend on the auditor's judgment, including the assessment of the risks of material misstatement of the financial statements, whether due to fraud or error. In making these risk assessments, the auditor considers internal control relevant to the Board's preparation and fair presentation of financial statements in order to design audit procedures that are appropriate in the circumstances, but not for the purpose of expressing an opinion on the effectiveness of the Board's internal control. An audit also includes evaluating the appropriateness of accounting policies used and the reasonableness of accounting estimates made by management, as well as evaluating the overall presentation of the financial statements, Sub-section (3) and (4) of Section 13 of the Finance Act, No. 38 of 1971 give discretionary powers to the Auditor General to determine the scope and extent of the audit.

I believe that the audit evidence I have obtained is sufficient and appropriate to provide a basis for my adverse audit opinion.

1:4 **Basis for Adverse Opinion**

Had the matters described in paragraph 2.2 of this report been adjusted, many elements in the accompanying financial statements would have been materially affected.

2. **Financial Statements**

2.1 **Adverse Opinion**

In my opinion, because of the significance of the matters described in paragraph 2.2 of this report, the financial statements do not give a true and fair view of the financial position of the Water Resources Board as at 31 December 2012 and its financial performance and cash flows for the year then ended in accordance with Sri Lanka Accounting Standards.

---

## 2.2 **Comments on Financial Statements**

### 2.2.1 Sri Lanka Accounting Standards

The value of motor vehicles, computers and accessories, laboratory equipment, machinery, tools and equipment aggregating Rs.299,613,043 had not been revalued in terms of Sri Lanka Accounting Standard No. 16.

### 2.2.2 Accounting Deficiencies

The following observations are made.

- (a) The Board had not possessed the legal ownership of four motor vehicles valued at Rs.4,973,346 shown in the Statement of Financial Position.
- (b) A sum of Rs.129,499 spent during the year under review for purchase of non current assets such as gas cooker, beds, chairs, mattresses, electric kettles, calculators and drilling equipment had been accounted under operating expenditure.
- (c) Capital grants received during the year under review from the Treasury had been shown in the Treasury print-outs as Rs.14,875,000. However it had been shown as Rs.19,478,000 in the Statement of Comprehensive income thus indicating a deference of Rs.4,603,000.
- (d) Capital expenditure under Treasury Funded Project during the year under review had been shown in the Treasury print-outs as Rs.14,875,000. However it had been shown as Rs.22,407,000 in the Statement of Comprehensive Income thus indicating a difference of Rs.7,532,000.
- (e) 8109 items of stocks such as rig spare parts, scientific equipment and consumable articles remaining at the Regional Offices and work sites at the end of the year under review had not been valued and brought to accounts.
- (f) Non existence Receivable Capital Treasury Grant of Rs.4,933,604 had been shown under current assets in the Statement of Financial Position. As a result, Capital Reserves of the Board also had been increased by the same amount.
- (g) A special allowance of Rs.1,115,000 had been paid for some selected officers of the Board with their salary during the period of May to December 2012 without obtaining approval of the Secretary to the

Treasury in terms of Section 9.7 of the Public Enterprises Circular No. PED/12 dated 02 June 2003.

(h) The cash flow statement had been prepared with arithmetical errors.

### 2.2.3 Accounts Receivable and Payable

The following observations are made.

(a) The Board had not taken effective action to recover a sum of Rs.727,244 out of the total receivables of Rs.3,970,031 as at 31 December 2012 even though it had remained outstanding for more than 2 years.

(b) The Board had obtained service advances totaling Rs.7,661,378 from 37 institutions and 6 individuals to carry out various works. However, those works had not been completed even after elapsed of more than one year.

### 2.2.4 Lack of Evidence for Audit

The following documentary evidences were not made available for audit.

Details of Accounts	Value	Evidence not made Available
-----	-----	-----
	<b>Rs.</b>	
(i) Trade Receivables	3,186,554	} Confirmations from the Parties Concerned
(ii) Creditors	17,889,130	
(iii) Vehicles	91,712,000	Board of Survey Reports
(iv) Property, Plant and Equipment	120,540,000	Register of Fixed Assets
(v) Land Purchased for Moneragala		
Divisional Branch	170,321	Deed of the Land
<b>Total</b>	<b>233,498,005</b>	
	=====	

### 2.2.5 Non-compliance with Laws, Rules Regulations etc.

The following non-compliance were observed in audit.

**Reference to Laws, Rules and**

**Non-compliance**

---

## Regulations

- |   |   |
|---|---|
| <p>-----</p> <p>(a) Section 14 of the Water Resources Board Act No. 29 of 1964</p> <p>(b) <u>Treasury Circulars</u></p> <p>    (i) Circular No. 842 dated 19 December 1978</p> <p>    (ii) Circular No. IAI/2002/02 dated 28 November 2002 maintained computers and computer accessories.</p> <p>    (iii) Circular No. PED/12 dated 02 June 2003</p> <p>        • Section 4.2.5</p> <p>(c) <u>Public Administration Circular</u></p> <p>    Section 2.1 of the Circular No. 41/90 of 10 October 1990</p> <p>(d) <u>Financial Regulations</u></p> <p>    F.R. 104 (3) (4)</p> | <p>-----</p> <p>The Advisory Committee had not functioned during the year under review.</p> <p>A register of fixed assets had not been maintained by the Board</p> <p>A register had not been to record the details of</p> <p>Age analysis report of non-moving, slow moving and obsolete stocks had not been prepared.</p> <p>Fuel consumption of vehicles of the Board had not been tested in terms of the Circular.</p> <p>Event though 3 vehicles had been Repaired after accident by expending Rs.3,508,796, no inquiries had been Instituted to ascertain the extend and causes of the loss and to the Responsibility for the Board. Preliminary Reports and a final reports had not been</p> <p>Rendered to audit in respect of each accident.</p> |
|---|---|

### 3. Financial Review

#### 3.1 Financial Results

Accounting to the Financial Statements presented, the working of the Board for the year ended 31 December 2012 had resulted in a deficit Rs.43,812,000 as compared with the corresponding deficit of Rs.46,898,000 for the preceding year, thus indicating an improvement on Rs.3,086,000 in the financial results for the year under review. Main reasons attributed for the

improvement of financial results were increase of expenditure by Rs.16,579,000 and increase of income by Rs.19,665,000.

#### 4. **Operating Review**

##### 4.1 **Financial and Physical Performance**

Accounting to the Annual Estimates and details made available to audit, the financial and physical performance of the Board during the year under review are given below.

##### (a) **Financial Performance**

##### **Income**

Subject	Estimated Income	Actual Income	Variation of the Variation	Percentage
-----	-----	-----	-----	-----
	Rs.	Rs.	Rs.	%
Hydrogeological Survey	7,000,000	10,653,000	3,653,000	52
Hand Pump Installation	1,500,000	2,265,000	765,000	51
Pumping Test	1,500,000	6,406,000	4,906,000	27
Water Sample Analysis	500,000	985,000	485,000	97
Ground Water Development				
MANRIP – JICA *	NIL	3,038,000	3,038,000	oo
Wind Mills (100)	250,000	NIL	(250,000)	
Geographic Information System				
Income	10,000	27,000	17,000	170
Fines and Surcharges	100,000	157,000	57,000	57
<b><u>Treasury Grant - Capital</u></b>				
<b><u>(Research Studies – Operational)</u></b>				
Staff Training	300,000	59,000	(241,000)	(80)
Hydrogeological				
Coastal Study in Colombo to Negombo	25,300,000	7,707,000	(17,593,000)	(70)
Study in Water Quality Changes in				
Aquifer System – Anuradhapura	12,930,000	5,866,000	(7,064,000)	(55)

Jaffna Ground Water Monitoring	9,100,000	694,000	(8,406,000)	(92)
Hydrogeological study in				
Limestones Aquifers in Mannar	13,650,000	2,996,000	(10,654,000)	(78)
Atlas Collection Maps	300,000	128,000	(172,000)	(57)
Rehabilitation and Improvements				
Income	6,000,000	523,000	(5,477,000)	(91)

\* Development Planning for the Urgent Rehabilitation of the Resettlement Community in Mannar

District Project – Japan International Cooperation Agency.

### **Expenditure**

Subject	Estimated Income	Actual Income	Variation of the Variation	Percentage
-----	-----	-----	-----	-----
	Rs.	Rs.	Rs.	%
Overtime and Holiday Pay	5,000,000	6,415,000	(1,415,000)	(28)
Director's Fees	250,000	768,000	(518,000)	(207)
Other Allowances	30,000	17,000	13,000	43
Travelling – Local	5,000,000	6,776,000	(1,776,000)	(36)
Travelling – Overseas	200,000	58,000	142,000	71
Rent, Rates and Taxes	500,000	936,000	(436,000)	(87)
Printing and Publications	150,000	410,000	(260,000)	(173)
Sundry Expenses	400,000	268,000	132,000	33

### Supplies and Requisites

Fuel and Lubricant	15,000,000	20,864,000	(5,864,000)	(39)
Drilling Work Consumables	11,000,000	7,486,000	3,514,000	32
Laboratory Consumables and Other	1,000,000	2,253,000	(1,253,000)	(125)

### Maintenance and Repairs

Motor vehicles	3,500,000	5,017,000	(1,517,000)	(43)
Machinery	1,500,000	1,097,000	403,000	27
Office Equipment	700,000	1,026,000	(326,000)	(47)
Buildings	500,000	2,278,000	(1,778,000)	(356)
Welfare and Sports Facilities	150,000	68,000	82,000	55
Entertainment	125,000	93,000	32,000	26
Vacation Leave Encashment	50,000	20,000	30,000	60
Stationery and Office Requisites	250,000	1,224,000	(974,000)	(390)

Periodicals and News papers	90,000	119,000	(29,000)	(32)
Publicity and Advertising Expense	400,000	136,000	264,000	66
Bank Charges	125,000	77,000	48,000	38
Medical Test Charges	50,000	36,000	14,000	28
Legal Expenses	100,000	14,000	86,000	86
Stamp Duty	10,000	7,000	3,000	30
Vehicle Service – Rathmalana	150,000	318,000	(168,000)	(112)
Vehicle Hiring Charges	NIL	29,000	(29,000)	oo
Training Centre Expenditure (Anuradhapura)	500,000	271,000	(229,000)	(46)

Subject	Estimated Income	Actual Income	Variation of the Variation	Percentage
-----	-----	-----	-----	-----
	Rs.	Rs.	Rs.	%

### **Project Expenses**

#### **(Treasury Grant)**

Hydrogeological Coastal Study in Colombo to Negombo	25,300,000	9,107,000	16,193,000	64
Making and Installation of Hand Pumps	2,000,000	NIL	2,000,000	100
Study in Water Quality Changes in Aquifer System – Anuradhapura	12,930,000	6,310,000	6,620,000	51
Jaffna Ground Water Monitoring	9,100,000	687,000	8,413,000	92
Hydrogeological Study in Limestones Aquifers in Mannar District	13,650,000	3,411,000	10,239,000	75
Atlas Collection Maps	300,000	132,000	168,000	56
Staff Training	300,000	174,000	126,000	42
Rehabilitation and Improvements	6,000,000	1,082,000	4,918,000	82

#### **(b) Physical Performance**

Subject	Estimated Units	Completed Units	Variation
-----	-----	-----	-----

#### **Generated Fund Projects**

Hydrogeological Survey	50	178	128
Tube well Construction	50	46	4
Hand Pump Installation	75	10	65
Pumping Test	40	49	9

Tube Well Cleaning	40	22	18
Water Sample Analysis	500	772	272

**Consolidated Fund Projects**

* Hydrogeological Study on the Coastal Study Aquifer Extending from Colombo to Negombo			
Hydrogeological Survey	100	81	19
Construction of Test Wells	150	53	97
Water Sample Analysis	400	298	102
Well Monitoring	400	298	102
Leveling	100	-	100
Pump Test	50	21	29
* Study Water Quality Changes in Aquifer System in Anurdhapura District			
Pump Test	50	-	50
Well Monitoring	400	200	200
Collection of Water Samples and Analysis	200	210	10
Conducting Training Programme	10	6	4
Conducting Water Clinics	20	10	10
* Jaffna Ground Water Monitoring			
Hydrogeological Survey	100	18	82
Construction of Test Bore Holes	100	-	100
Water Sample Analysis	100	114	14
Pump Test and Leveling	50	5	45
* Hydrogeological Study in Limestones Aquifers in Mannar Districts			
Hydrogeological Survey	50	4	46
Construction of Test Bore Holes	50	4	46
Water Sample Analysis	50	37	13
Pump Test and Leveling	50	1	49

**The following observations are made with regard to the above performance.**

- 
- (i) Even though income of Rs.3,038,000 had been earned during the year under review from Ground Water Development (MANRIP – JICA), this activity had not been estimated.
  - (ii) Even though income of Rs.250,000 had been estimated during the year under review in respect of Wind mills, no income had been earned.
  - (iii) Even though the Board had earned an income of Rs.54,313,000 during the year under review on Hydrogeological Surveys, Tube Well Constructions, Hand Pump Installation, Pumping Test, Tube Well Cleaning and Water Sample Analysis, the audit test checks revealed that detailed estimates had not been prepared for each activity had not been recorded so as to compare the actual cost with actual income.
  - (iv) Even though the Board had estimated to carry out 50 Pump Tests, 100 Leveling and construction of 100 Bore Holes, none of them had been carried out during the year under review.
  - (v) Provision of Rs.2,000,000 made for Installation of Hand Pumps had not been utilized whilst provision had not been made in the budget for Vehicle Hiring Charges amounting to Rs.29,000.00.

#### **4.2.1 Achievement of Objectives**

- (a) The Board had not taken necessary action on the following matters as laid down in Section 12 of the Water Resources Board (Amendment) Act No: 42 of 1999.
  - (i) The control regulation and development (including the conservation and utilization) of the water resource of the country.
  - (ii) The prevention of the pollution of rivers, streams and other water resources.
  - (iii) The formulation of national policies relating to the control and use of the water resources of the country with the following objectives.
    - The multi-purpose development and use of water resources.
    - The short term and long term provision of water resources for domestic supplies and industrial supplies.
    - The control of salinity.
  - (iv) The preparation of comprehensive and integrated plans for the conservation, utilization, control and development of the groundwater resources of the country.
  - (v) The co-ordination of the activities of the Government Departments, Local Authorities and Public Corporations in regard to surveys of basic data and other investigations, relating to hydrogeology.

- (vi) The analysis of reports based on investigations, statistical surveys, plans and proposals relating to the ground water resources of the country made by Government Departments, Local Authorities and Public Corporations.
- (vii) The co-ordination of projects undertaken by Government Departments, Local Authorities and Public Corporations, relating to the conservation, utilization and development of the subterranean water resources of the country, and the assessment of the possibilities, benefits and economic feasibility of such projects.

#### **4.3 Delays in Research Studies**

##### **(a) Water Quality Changes in Aquifer System and Identification of Zones with Hazards Minerals Containing in Water in Anuradhapura District**

The Board had commenced this research study in the year 2011 with the estimated cost of Rs. 15,000,000 and was scheduled to be completed by 31 December 2012. According to the information made available to audit, the budgeted amount and the expenditure incurred thereon as at the end of the project period are given below.

	Year 2011 -----	Year 2012 -----	Total -----
	Rs.	Rs.	Rs.
Budgeted expenditure	10,000,000	5,000,000	15,000,000
Actual expenditure	1,149,990	6,310,000	7,459,990
Under / (excess) utilization	8,850,010	(1,310,000)	7,540,010
	=====	=====	=====

The following observations are made in this connection.

- (i) Out of the amount allocated for research studies, a sum of Rs.7,540,010 had not been utilized for the above studies and as such the financial progress of the project was unsatisfactory.
- (ii) Performance of the project could not be reviewed due to non-availability of physical progress report of the Project.
- (iii) According to the National Budget, a sum of Rs. 15,000,000 had been allocated for the year 2012 for this project. However, only Rs.5,000,000 had been provided in the project estimate of the Board. Therefore the Board had not taken action to revise estimate according to the National Budget.

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**(b) Hydrogeological Study on the Coastal Sand Aquifer Extending from Colombo to Negombo**

The Board had commenced this research study in the year 2010 with the estimated cost of Rs. 127,000,000 and was scheduled to be completed by 31 December 2012. According to the information made available to audit, the budgeted amount and the expenditure incurred thereon as at the end of the project period are given below.

	Year 2010	Year 2011	Year 2012	Total
	-----	-----	-----	-----
	Rs.	Rs.	Rs.	Rs.
Budgeted expenditure	40,000,000	75,000,000	12,000,000	127,000,000
Actual expenditure	Nil	7,366,539	9,107,000	16,473,539
Under utilization	40,000,000	67,633,461	2,893,000	110,526,461
	=====	=====	=====	=====

The following observations are made in this connection.

- (i) Out of the amount allocated for the research studies, a sum of Rs.110,526,461 had not been utilized for the above studies and as such the financial progress of the project was unsatisfactory.
- (ii) Performance of the project could not be reviewed due to non-availability of physical progress reports of the Project.
- (iii) According to the National Budget, a sum of Rs.30,000,000 had been allocated for the year 2012 for this project. However, only Rs.12,000,000 had been provided in the project proposal of the Board. Therefore the Board had not taken action to revise proposal according to the National Budget.

**(c) Development of Ground Water Monitoring Network in Jaffna Peninsula**

The Board had commenced the project of Development of Ground Water Monitoring Network in Jaffna Peninsula in the year 2012 with the estimated cost of Rs.28,500,000 and was scheduled to be completed by 31 December 2013. According to the information made available to audit, the budgeted amount and the expenditure incurred thereon as at the end of the 31 December 2012 are given below.

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	Year 2012
	-----
	Rs.
Budgeted expenditure	26,500,000
Actual expenditure	687,000
	-----
Under utilization	25,813,000
	=====

The following observations are made in this connection.

- (i) Out of the amount allocated for the project for 2012, a sum of Rs.25,813,000 had not been utilized and as such the financial progress of the project was unsatisfactory.
- (ii) Though a sum of the Rs.26,500,000 had to be spent during the year under review, only a sum of Rs.10,000,000 had been provided in the National Budget. Hence it was observed that targets of the project could not be achieved.

**(d) Hydrological Study in the Limestone Aquifer in Mannar District**

The Board had commenced this research study in the year 2012 with the estimated cost of Rs.28,800,000 and was scheduled to be completed by 31 December 2013. According to the information made available to audit, the budgeted amount and the expenditure incurred thereon as at the end of 31 December 2012 are given below.

	Year 2012
	-----
	Rs.
Budgeted expenditure	22,225,000
Actual expenditure	3,411,000
	-----
Under utilization	18,814,000
	=====

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The following observations are made in this connection.

- (i) Out of the amount allocated for the research studies for 2012, a sum of Rs.18,814,000 had not been utilized and as such the financial progress of the project was unsatisfactory.
- (ii) Performance of the project could not be reviewed due to non-availability of physical progress report of the Project.

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#### **4.4 Fund for Payment of Employees Gratuity**

Even though a sum of Rs.67,419,000 had been provided in the accounts of the Board as at

31 December 2012 for the payment of gratuity, only a sum of Rs.12,000,000 had be

invested to meet the gratuity payments as and when they arise in the future.

### **5. Accountability and Good Governance**

#### **5.1 Corporate Plan**

##### **Corporate Plan**

Corporate Plan, Action plan and Annual Budget had not been prepared properly in terms of Section 5 of the Public Enterprises Circular No.PED/12 of 02 June 2003.

#### **5.2 Internal Audit**

Only one Internal Audit examination had been carried out during the year under review. But necessary action had not been taken thereon to rectify the mistake pointed out.

#### **5.3 Audit and Management Committees**

According to the Public Enterprises Circular No PED/55 of 14 December 2010 the Audit and Management Committee should meet at least once in every three months. Nevertheless the Committee had met only 03 time during the year under review.

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#### **5.4 Budgetary Control**

- (a) Significant variances were observed between the estimated income and expenditure and the actual of the Board, thus indicating that the budget had not been made use of as an effective instrument of management control.
- (b) Even though a provision Rs. 78,000,000 had been made in the Appropriation Act for capital expenditure, only a sum of Rs.14,875,000 had been utilized during the under review. The Board had not utilized Rs.63,125,000 or 81% of the total provision for the intended purposes.

#### **5.5 Tabling of Annual Reports**

Annual report for the years 2010 and 2011 had not been tabled in the Parliament in terms of Section 14(3) of the Finance Act.

#### **5.6 Unanswered Audit Queries**

Replies for three audit queries issued to the Board during the year under review had not been furnished by the Board even as at 31 August 2013.

### **6. System and Controls**

Deficiencies observed in systems and controls during the course of audit were brought to the Chairman of the Board by my detailed report issued in terms of Section 13(7)(a) of the Finance Act. Special attention is needed in respect of the following areas of control.

- (a) Finance and physical performance
- (b) Budget
- (c) Receivables and Payables
- (d) Achievement of Objectives of the Board

**H.A.S. Samaraweera**  
**Auditor General**



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MINISTRY OF IRRIGATION & WATER RESOURCES MANAGEMENT



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நீர் வளச் சபை  
WATER RESOURCES BOARD

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My No. }

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Date }

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உமது இல }  
Your ref }

WRB/IA/32

Deputy Auditor General

Auditor General's Department

No. 306/72, Polduwa Road

Baththaramulla

**REPORT OF THE AUDITOR GENERAL ON THE FINANCIA STATEMENT OF THE WATER RESOURCES BOARD FOR THE YEAR ENDED 31<sup>st</sup> DECEMBER 2012 IN TERMS OF SECTION 14 (2) (c) OF THE FINANCE ACT. NO. 38 OF 1971**

This reference to your letter No. LP/B/2012/40 on the above subject. My observation is given below for your kind attention please.

**2.2.1. Sri Lanka Accounting Standards**

Arrangement will be made to get technical support to revalue the assets in future.

**2.2.2 Accounting Deficiencies**

- (a) According to the submitted audit quarries the vehicle No PC – 0168 which was received under Dam Safety Project and added to the fleet. Balance other three vehicles were added to the fleet while revaluation of the assets. At presents above mentioned three vehicle were fully depreciated and they were taken into ledgers considering their economical advantages and legal ownership.
- (b) A sum of Rs. 129,499 of 12 items were shown under expenditure without accounting as an assets because of considering their quantibility and

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lifetime. However for controlling the stocks, these items were included in inventories.

- (c) Item were purchased during the year for the on-going treasury approved projects which were mentioned under accrued expenses and the payments were done by the treasury fund which was received in 2013 and the financial statement were adjusted according to the Sri Lanka Accounting Standard.
- (d) While purchasing materials for the approved treasury grant project, another 2.9 million had to be expended in addition to accrued expenditure Rs. 4.6 million which was mentioned in the above "C". It was a reason for variation.
- (e) Including Drilling Machine accessories, Laboratory accessories, and other Consumable items which were received from the foreign funded projects and maintain them by inventory quantity wise ledgers.
- (f) Accrued expenditure Rs. 4.9 million Which was mentioned in above 'C' was shown in the financial statement as a receivable balance amount for expenditure which was spent on treasury allocation at date of reporting.
- (g) Action is being taken to obtain the approval from the secretary of finance Ministry.
- (h) The arithmetical errors of the cash flow statement of the year 2012 will be corrected at the submitting year 2013 financial statement.

### **2.2.3 Accounts Receivable and Payable**

- (a) Provincial Secretary of the Vavuniya agreed to settle the balance amount National Water Supply & Drainage Bound has in formed us that it was unable to settle balance amount due to lack of necessary information.

Necessary action is being taken to recover from Institute Of National Education

The Board of Directors has decided to write-off the unsettle amount from the Head Quartos of Sri Lanka Army.

- (b) Service Advances ware released to the requested institutions and balance amounts were kept in the ledger accounts for releasing when they request.

### **2.2.4 Lack Of Evidence For Audit**

Balance confirmation letters have been sent for trade creditors. The deed of the Monaragala provincial office land had been received (Deed No is 5531)

### **2.2.5 Non Compliance with Laws, Rules and Regulations**

- (a) The function of the advisory committee is to advise the board on any or all of the matters set out in section 12 of the act. The committee is comprising of

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heads or his representatives of 15 government institutions. This committee is already existed.

**(b) Treasury Circulars**

(i) Fixed assets scheduling has been updating by computer software which was installing for inventory controls. However the technical problems installed software are being rectified with relevant institute.

(ii) – do –

(iii) The reports could be obtained after updating the details under installing Computer Software.

**(c) PA Circulars**

(i) Action will be taken to follow section 2.1 of the Public Administration Circular No. 40/90 accordingly.

**(d) Financial Regulations**

(i) Action is being taken to follows the FR 104 (3) and (4) in future.

**03. Financial Review**

**04. Operational Review**

**4.1 Financial & Physical Performance**

(i) During the year this income wasn't expected. But it was received as per additional income of the year

(ii) Estimated income Rs. 250,000 wasn't received because the order which wasn't received for wind mill.

(iii) Action is being taken to enter actual expenditure and income to the relevant file.

(iv) Not receiving the required allocations for implementing the project. It was unable to do estimated activities.

(v) Allocation was not mentioned in the budget as though

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## 4.2 Achievement of Objective

According to the item (i) to (vii) With the collaboration of Central Environment Authority a joint cabinet paper will be submitted to the cabinet for the formulation of regulation

## 4.3 Delays in Research Studies

- (a) (i) Limited funds were released.
- (ii) Project reports were submitted to the Treasury.
- (iii) Though the activities have been revised, since July, 2012 the board did not receive funds for treasury grant projects.
- (b) (i) Limited funds were released.
- (i) Project reports were submitted to the Treasury
- (iii) Though the activities have been revised, since July, 2012 the board did not receive funds for treasury grant projects.
- (c) (i) Limited funds were released.
- (ii) Couldn't achieve the expected targets due to insufficient allocated funds.
- (d) (i) Limited funds were released.
- (ii) Project reports were submitted to the Treasury

## 4.2 Build up of a fund for employees Gratuity

Payments of gratuity have been used from the generated funds of the Water Resources Board due to non availability of treasury funds.

## 5. Accountability and Good Governance

### 5.1 Corporate Plan

Action will be taken to follow the circular No. PED/12

### 5.2 Internal Audit

Necessary steps have been taken already.

### 5.3 Audit and Management Committees

It has been organized to hold the Audit & Management Committee at least once in every three months.

### 5.4 Budgetary Control

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(a) Ground water research studies involve test bore hole drilling which is one of the main to be perform with the very old drilling rigs of the board. Assuming the maximum utilization of the machines the budget estimates are being prepared. When implementing the projects, these drilling rigs are frequently undergo repairs and it is difficult to achieve the expected targets. The result would be the variances in estimated cost and the expenditure. The board already convince this situation to the Treasury and a project proposal was submit to the department of National Planing for requesting three new drilling rigs with accessories to the Water Resources Board for the year 2013. The variances can be minimized, if the board provided with required equipment.

(b) The total amount received from the treasury for the project has been used for that.

### **5.5 Tabling of Annual Reports**

Annual report of 2010 has been handed over on 19<sup>th</sup> of November 2012. The annual report of 2011 has been sent to the Secretary, Ministry of Irrigation and Water Resources Management on 18<sup>th</sup> of June 2013.

### **5.6 Unanswered Audit Queries**

The replies for the three audit queries will send within one month.

## **6. Systems and Controls**

Actions have been taken to have a better control over the areas.

**Bandula Munasinghe**

**Chairman**

**Water Resources Board**

**Copies to: (1) Secretary,**

**Ministry of Irrigation and Water Resources Management**

**(2) Director General,**

**Department of National Budget**