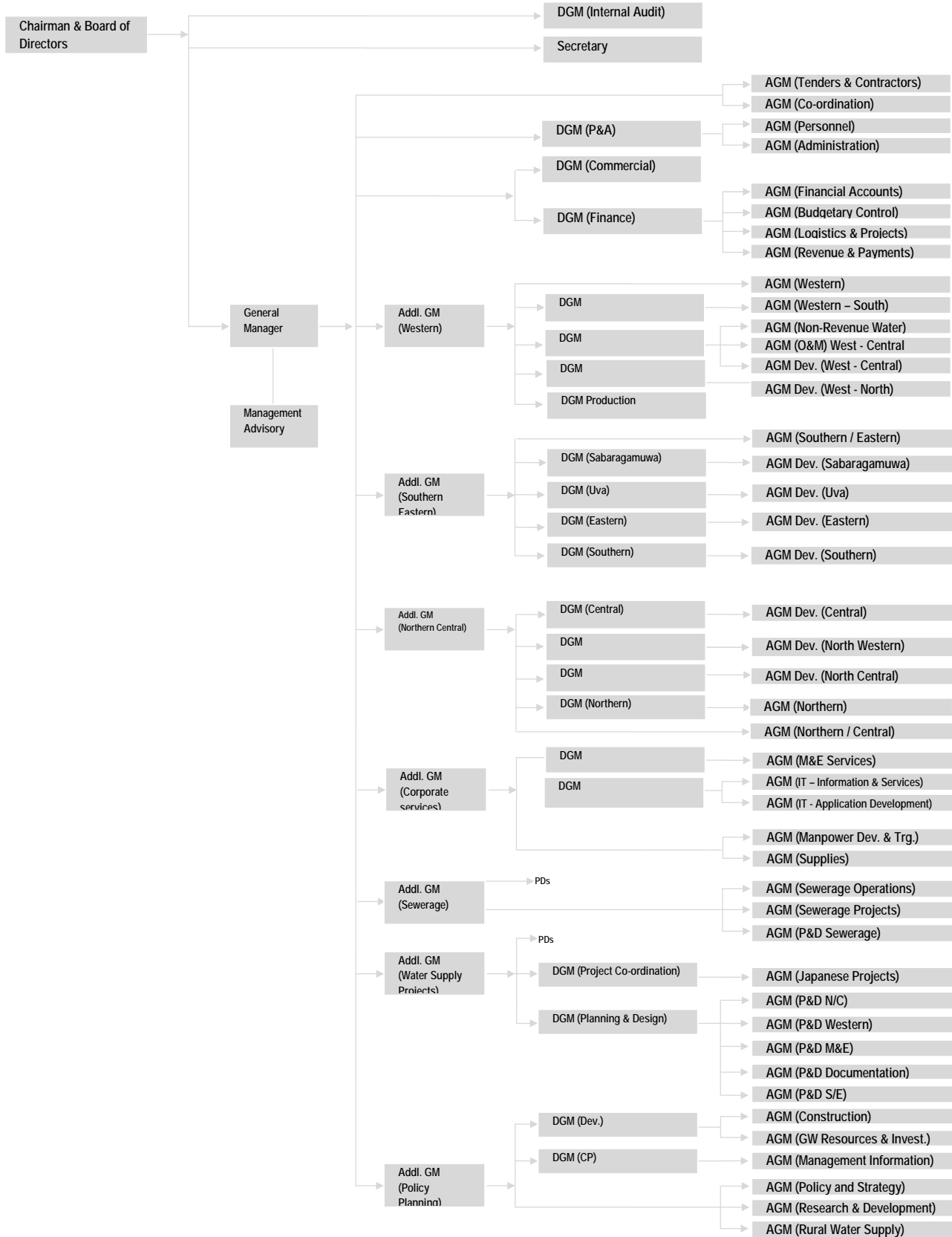


CHAPTER 6
MANAGEMENT, OPERATION AND
MAINTENANCE OF PROPOSED
WATER SUPPLY SYSTEM

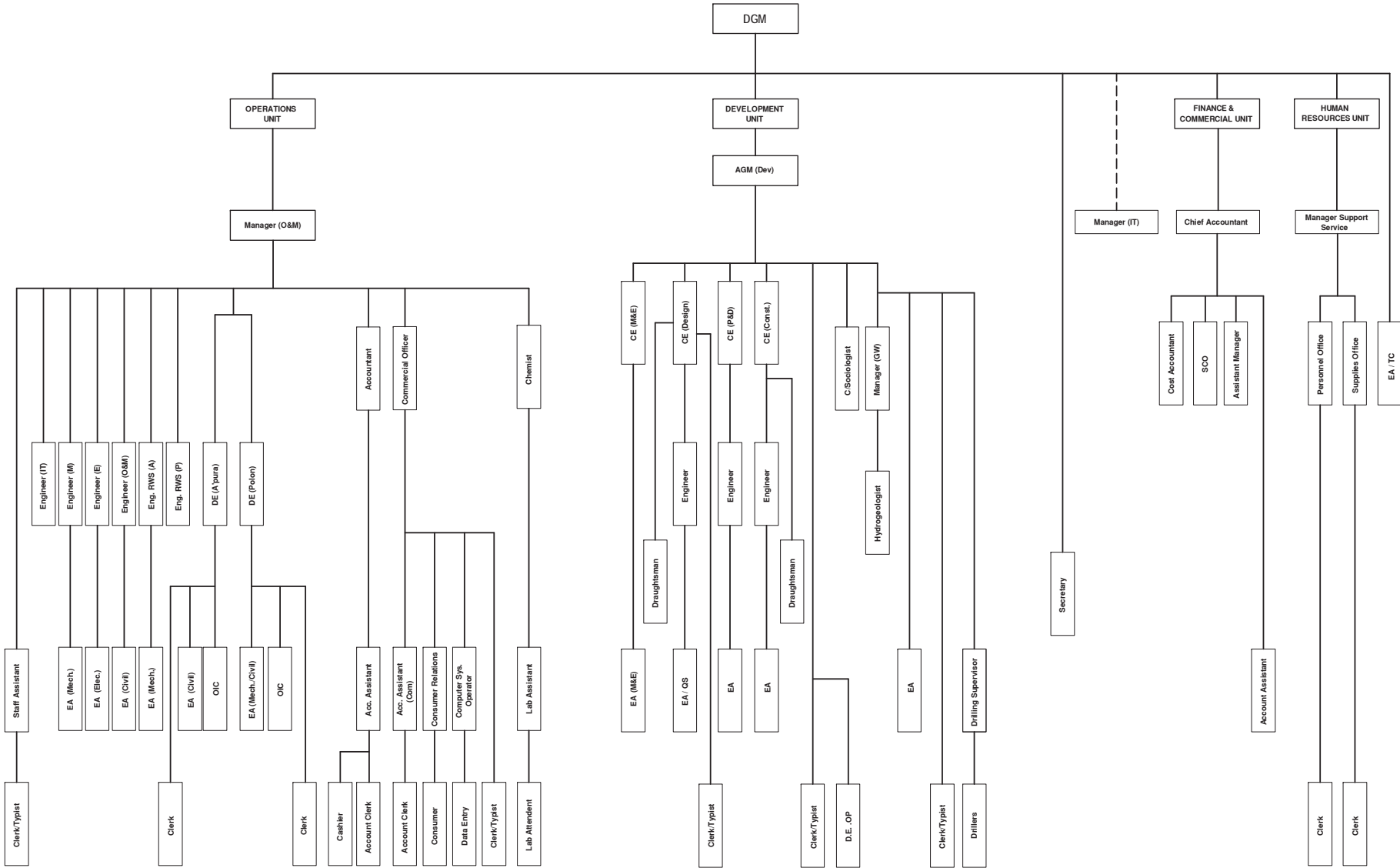
Appendix 6.1(a)

Current Organization Structure of NWSDB



Appendix 6.1 (b)

NATIONAL WATER SUPPLY & DRAINAGE BOARD (NORTH CENTRAL RSC)
AS OF JULY 2012



Appendix 6.1 (c)

Distribution of Approved Cadre according to Board Grade and Categories

No. of Categories	Board Grade	Categories / Designation	Approved Cadre ¹	Approved Cadre ²	Total Approved
			2011	2012	
1	2	Deputy General Manager	01	-	01
2	3	Asst. General Manager	01	-	01
3	4	Manager (Operation and Maintenance)	01	-	01
4		Chief Engineer (Civil)	03	-	03
5		Chief Engineer (Mechanical)	01	-	01
6		Manager (Ground Water)	01	-	01
7		Manager (Human Resources)	01	-	01
8		Chief Accountant	01	-	01
9		Chief Sociologist	01	-	01
10		7	Hydrogeologist / Geologist	02	-
11	Engineer (Civil) / District Engineer		13	03	16
12	Engineer (Electrical)		02	01	03
13	Engineer (Mechanical)		02	01	03
14	Computer Hardware Engineer (IT)		01	-	01
15	Chemist		02	-	02
16	Asset Management Officer		01	-	01
17	Commercial Officer (Operations / Investigations)		02	-	02
18	Accountant		02	-	02
19	Cost Accountant		01	-	01
20	Sociologist		01	-	01
21	Quantity Surveyor		01	-	01
22	8	Human Resource Officer	01	-	01
23		Supplies Officer	01	-	01
24		Personnel Assistant / Secretary	01	-	01
25		Assistant Engineer	22	-	22
26		System Administrator	01	-	01
27	9	Engineering Assistant (Civil)	26	-	26
28		Engineering Assistant (Mechanical)	07	-	07
29		Engineering Assistant (Electrical)	03	-	03
30		Draughtsman	02	-	02
31		Management Assistant Supra (Audit)	01	-	01
32		Management Assistant Supra (Accounts) [Accounts Asst]	02	-	02
33		Management Assistant Supra (Accounts Commercial) [Account Assistant Commercial]	01	-	01
34		Management Assistant (Costing)	02	-	02
35		Consumer Relations Assistant	01	03	04
36		Management Assistant Supra (HR) [Staff Asst]	01	-	01
37		Laboratory Assistant	02	-	02
38		Computer System Operator	01	-	01
39		Driller	08	-	08
40	10	Management Assistant (Accounts Clerk)	09	-	09
41		Computer Hardware Technician	01	-	01
42	11	Management Assistant (HR) [General Clerk]	17	-	17
43		Management Assistant (Consumer Relations) [CR Clerk]	03	-	03
44	12	Management Assistant (Cash and Funds) Cashier	02	-	02
45		Plant Operation Technician	06	03	09
46		Management Assistant (Data Entry Operator)	04	-	04
47		Management Assistant (Word Processor English)	02	-	02
48		Management Assistant (Word Processing Sinhala)	01	-	01
49		Management Assistant (Store Keeping) [Store Keeper]	06	-	06
50		Laboratory Attendant	02	-	02
51		Meter Reading Inspector	01	-	01
52		Management Assistant (Receptionist)	01	-	01

No. of Categories	Board Grade	Categories / Designation	Approved Cadre ¹	Approved Cadre ²	Total Approved
			2011	2012	
53	2	Deputy General Manager	01	-	01
54	13	Meter Reader	23	08	31
55		Driver	30	03	33
56		Labour Supervisor	08	04	12
57		Mechanic	03	-	03
58		Electrician	04	-	04
59		Plant Operator Mechanic	44	-	44
60		Carpenter	01	-	01
61		Circuit Bungalow Keeper	03	-	03
62		Mason	02	-	02
63		Pipe Fitter	25	06	31
64		Cook	01	-	01
65		15	Caretaker	0	03
66	Labourer		118	09	127
TOTAL			441	44	485

^{1/} Culled from the document, *NWSDB Approved Cadre 2011 (Category-wise and Salary Code) Summary*, provided by the NWSDB Human Resource Management Office (Colombo, 04 July 2012).

^{2/} Official letter addressed to the Secretary, MWSD dated 22 June 2012, from the Director General of the Department of Management Services, with subject: "Creation of Operation and Maintenance Cadre for the Polonnaruwa Secondary Town Rural Water Supply and Sanitation Project". Provided by NWSDB N/C RSC Human Resource Office, 02 July 2012.

Appendix 6.1 (d)

Technical Training Programmes (2012), NWSDB Head Office

Se. No	Title of the Programme (Technical)	Target Group	Duration (Days)	Quarter				Total
				1	2	3	4	
1	Training Programme for Purification Plant Technicians	P.T.P. Technicians	45	01	-	-	-	01
2	O&M of Water Treatment Plant and O&M of Water Distribution System	SL Navy Personnel	41	01	-	-	-	01
3	Training Programme for Electricians	Electricians	7	-	01	-	-	01
4	Maintenance and Repair of Chlorinators	Plant Operators	03	01	-	01	01	03
5	O&M of Water Distribution Systems	Engineers/ EAs	01	-	-	01	01	02
6	Role of a Chemist in Water Supply	Chemists	02	01	-	-	-	01
7	Rain Water Harvesting	Engineers/EAs	01	-	01	01	-	02
8	Water Safety Plans	Engineers/EAs Chemists/ Lab Assts	01	-	01	01	-	02
9	PE Pipe Laying and Service Connections	EAs/Labourers	02	01	-	01	-	02
10	Training Programme for Pipe Fitters	Pipe Fitters/ Labourers	01	01	01	01	-	03
11	Pump Selection, Installation, Testing	Engineers/EAs	01	-	-	01	01	02
12	Preparation of BOQ and Estimates for Pipe Lines	Engineers/EAs	02	-	-	01	-	01
13	Traffic Laws and Signs	Drivers	01	01	01	01	01	04
14	Preparation of Running Charts, Vehicle Maintenance, Reports, Vehicle Services	Drivers	01	01	01	-	01	03
15	Water Treatment Process for Labourers attached to WSS/ WTP	Labourers	03	-	-	01	01	02
16	Atomic Spectroscopy for Trace Metal Analysis in Water	Chemists/ Lab Assistants	01	01	-	-	-	01
17	PLC Training	Engineers/ EAs	01	-	01	01	-	02
18	Correct Use of Laboratory Measuring Equipment, Maintenance and Calibration	Chemists/ Lab Assistants	01	-	-	01	-	01
19	Variable Speed Devices	Engineers/EAs	01	-	01	-	-	01
20	Calculation of Input Percentages for Price Fluctuation Formula	Engineers	01	-	01	-	-	01
21	Quality Assurance & Construction Safety	Engineers/EAs	01	-	01	-	01	02
22	Planning and Design Activities	Engineers	03	-	01	-	01	02
23	Leak Detection Procedures after Pipe Laying	Engineers/EAs	01	-	01	01	-	02
24	Operation and Maintenance of Generators	Engineers/EAs	01	-	-	-	01	01
25	Safety Precautions to be applied of Water Leakages	Engineers/EAs/Pump Operators	01	02	02	02	02	08
26	Training Programme on Awareness of Water Safety Plan	Chemists	02	01	-	-	-	01
27	Water Safety Awareness Programme	Lab Assistants	04	01	-	-	-	01
28	Familiarization Course for Executives	Engineers/Geologists/ Chemists	02	-	-	-	01	01
29	Familiarization Course for Non Executives	EAs/D' Personnel/ Quantity Surveyors	02	-	-	-	01	01
30	Unscheduled						02	02
Total			134	13	14	15	15	57

Source: http://www.waterboard.lk/scripts/ASP/Internal_Trainings_Courses.asp

Appendix 6.1 (e)

Non-Technical Training Programmes (2012)

Se. No	Title of the Programme (Non-Technical)	Target Group	Duration (Days)	Quarter				Total
				1	2	3	4	
01	Management Development Phase (I)	Executives	01	01	-	-	-	01
02	Management Development Phase (II)	Executives	02	01	01	-	01	03
03	Management Development Phase (III)	Executives	02	-	01	01	01	03
04	Performance Appraisal and Training Need Assessment	Executives	01	-	-	01	-	01
05	Personal Grooming, Business and Social Etiquette	Executives	01	-	-	-	01	01
06	Effective Presentation Skills	Executives	01	-	01	-	-	01
07	Time Management for Higher Productivity	Mix	01	01	-	01	-	02
08	Building High Performance Team	Mix	01	-	-	01	01	02
09	Productivity Improvement	Mix	01	-	-	01	-	01
10	Supervisory Management	EAs		-	01	-	01	02
11	Awareness Programme for Administrative Procedure	Skill/ Unskilled Employees	01	01	01	01	01	04
12	Clerical Skills Development Phase II	General Clerks	02	01	01	01	-	03
13	Written Communication	Clerks	01	01	01	-	01	03
14	Positive Thinking and Work Ethics	Clerks	01	-	-	01	-	01
15	Training Programme on Record Keeping	Record Keepers	01	-	01	-	-	01
16	Supply Chain Management	Supply Officers	01	-	-	01	-	01
17	International Trade	FFP Staff	01	-	-	-	01	01
18	Productivity Improvement through Proper Stores Management	SKK/ Supplier Clerk	01	-	01	01	-	02
19	Training Programme on Commercial Procedures	Commercial Officers	02	-	-	02	-	02
20	Training Programme on Commercial Procedures	CRA/ CRC/ Acc. Clerk	01	-	-	01	-	01
21	Commercial Procedures	Engineers	01	-	01	-	-	01
22	Meter Reading Activities and Meter Readers Responsibilities	Meter Readers	02	-	01	01	01	03
23	Tamil Language	Mix	01	02	-	-	-	02
24	English Language	Mix	01	-	01	-	-	01
25	Importance of Costing for Financial Management	Accountants	01	-	01	-	-	01
26	Sri Lanka Accounting Standards	Accountants/ Acc. Asst.	01	-	-	-	02	02
27	Contract Payment and Capitalization (Rehabilitation and Rechargeable)	Acc. Asst. / Act. Clerk	01	-	-	-	01	01
28	Accounting of Stock, Fixed Assets and Primary Documentation	Acc. Asst. / Act. Clerk	01	-	-	01	01	02
29	Budgetary Control & Revision/ Transfer of Budget Allocation	Acc. Asst. / Act. Clerk	01	-	01	-	-	01
30	Importance of Costing	Acc. Asst. / Act. Clerk	01	-	01	-	-	01
31	Awareness Programme for Newly Recruited Accounts Clerks	Account Clerks	01	-	-	-	01	01
32	Financial Procedures	Non Financial Executives	01	-	-	-	01	01
33	Orientation Programme	Mix	01	-	-	01	01	02
34	New Trends in Internal Auditing	Internal Auditors/ Audit Asst./ Audit Clerks	01	-	01	01	-	02
Total			38	08	15	18	17	58

Source: http://www.waterboard.lk/scripts/ASP/Internal_Trainings_Courses.asp

Appendix 6.1 (f)

Computer Training Programmes (2012)

Se. No	Title of the Programme (Computer Training)	Target Group	Duration (Days)	Quarter				Total
				1	2	3	4	
1	Use of Sinhala UNICODE with Sinhala Kit provided by ICTA for Sinhala Computing Needs	Mixed	01	01	01	02	01	05
2	Training Programme on Internet and E-mail Management	Mixed	02	-	02	02	01	05
3	Troubleshooting and Computer Maintenance	Mixed	02	-	02	-	-	02
4	Computer Application - Water Cad	Engineers/EAs	02	-	-	01	01	02
5	Computer Application - EPANET	Engineers/EAs	02	-	-	01	-	01
6	Computer Application - SAP 2000	Engineers	02	-	02	-	-	02
7	Computer Application - Microsoft Word 2007	Mixed	5.5	-	01	01	01	03
8	Computer Application - Microsoft Excel 2007	Mixed	6.5	-	01	01	01	03
9	Computer Application - Microsoft Access 2007	Mixed	08	-	-	01	-	01
10	Refresher Course on Microsoft Excel	Mixed	01	-	01	03	01	05
11	Refresher Course on Microsoft Word	Mixed	01	-	01	03	02	06
Total			33	01	11	15	08	35

Source: http://www.waterboard.lk/scripts/ASP/Internal_Trainings_Courses.asp

Appendix 6.1 (g)

In-House Training Programmes for External Institutions

Se. No	Title of the Programme	Target Group	Duration (Days)	Quarter				Total
				1	2	3	4	
1	Awareness Programme on O&M of Pumping Equipment	CMC Pump Operators	01	-	-	01	-	01
2	Construction Supervision	Engineers/Tech Officers in	01	-	-	01	-	01
3	Quality Assurance and Safety		01	-	-	-	01	01
4	Civil Engineering Standard Method of Measurement	Construction Staff	01	-	-	-	01	01
Total			04	-	-	02	02	04

Source: http://www.waterboard.lk/scripts/ASP/Internal_Trainings_Courses.asp

Appendix 6.1 (h)

External Training (2012): Post Graduate Training Courses

No	Training Course	Institute	Duration (Years)	Category of Employees	No. of places
1	PhD Degree Programme (1st Year)	University of Moratuwa/ Peradeniya	05	Engineers	2
2	Master/ PG Diploma in Management/ Business Administration Business Management/ Public Management/ or similar programmes in field of management	Government Recognized Universities/ PIM/ SLIDA	01 - 02	Manager and Above Grades	04
3	Master of Human Resource Management/ Commerce/ Financial Accountancy/ Valuation	Government Recognized Universities	01 - 02	Executives	01
4	Master/ PG Diploma in Environmental Engineering and Management/ Environmental and Water Engineering/ Water Resources Management	Government Recognized Universities	01 - 02	Engineers	02
5	Master/ PG Diploma in Structural Engineering Designs	Government Recognized Universities	01 - 02	Engineers	02
6	Master/ PG Diploma in Management Technology/ Project Management Construction Management/ Civil Engineering	Government Recognized Universities	01 - 02	Engineers	03
7	Master/ PG Diploma in Electrical, Electronic, Mechanical	Government Recognized Universities	01 - 02	Engineers	01
8	Master of Science in Analytical Chemistry/ Microbiology/ Environmental Science /Applied/ Organic Chemistry	Government Recognized Universities	02 Part Time	Chemists	01
9	Master of Science in Computer Science/ Information Technology PG Diploma in Information System Management	Government Recognized Universities	01 - 02	IT Executives	01
10	Master of Science in Programme in GIS and Remote Sensing	Government Recognized Universities	02 Part Time	Engineers / Geologist	01
11	Master of Social Work /PG Diploma in Sociology/ Community Development	Government Recognized Universities /NISD	01 - 02	Sociologists	01
12	PG Diploma in Financial and Business Administration	Institute of Chartered Accountants of Sri Lanka	01 Part Time	Accountants	01
13	Committed for 2nd Year of Masters Programmes	Government Recognized Universities	01 Part Time	Executives	11

Source: http://www.waterboard.lk/scripts/ASP/External_Training_Courses.asp

APPENDIX 6.1 (i)**External Training Courses (2012): Diploma Courses**

No	Training Course / Diploma Course	Institute	Duration	Category of Employees	No. of places
1	Advance Diploma in Human Resources Management	NIBM	01 year Saturdays	S.P.OO./ S.T.OO./ P.OO. / T.OO.	01
2	National Diploma in Training and Development	IPM	01 year Sundays	S.TOO/ TOO	01
3	Advance Diploma in Business Management	NIBM	01 year Sundays	Accountants / C.OO.	01
4	Advance Diploma in Supplies and Material Management	NIBM	01 year Part time	S.AA./ S.CC. /S.KK.	01
5	Graduate Diploma Course in Purchasing and Supply Chain Management	NIBM	01 year Part time	S.AA./S.KK../ S.CC..	01
6	Diploma in Public Procurement and Contract Administration	SLIDA	14 months Saturdays	Engineers	01
7	Diploma for Executive Secretaries	Recognized Institute	4 months Part Time	Personal Secretaries	02
8	Diploma in Quantity Surveying	ICTAD	38 Fridays	E.AA. D' personnel	04
9	Advance Diploma in Quantity Surveying	ICTAD	60 Days (Fridays and Saturdays)	QS / E.AA	06

Source: http://www.waterboard.lk/scripts/ASP/External_Training_Courses.asp

Appendix 6.1(j)

External Training (2012): Other Training Courses

No	Other Training Course	Institute	Duration	Category of Employees	No. of places
1	Certificate Course in Human Resource Management (Sinhala Medium)	IPM	10 days Weekends	S.AA. / Snr.CC.	10
2	Advance Certificate in Secretarial Practice	NIBM	6 months	Clerks	03
3	Certificate Course in Stores Management	Institute of Supply and Materials Management	11 Sundays	S.KK./ S.CC.	02
4	Certificate Course in Purchasing Management	Institute of Supply and Materials Management	11 Sundays	S.OO. / S.AA. / S.KK./S.CC.	02
5	Computer Aided 3D Modeling (AutoCAD)	Government Recognized Universities	10 Sundays	Engineers	02
				D'personnel	02
6	Short Course on GIS and Its Application	University of Peradeniya	06 days	Engineers/ Geologists E.A A in Mapping Section	03
7	Configuration and Trouble Shooting Internet International Servers in Windows Server 2008	Net Assist International (Pvt.) Ltd.	40 Hours	Programmers /System Administrators	02
8	A + IT Technical (Computer)	IDM Computers (Pvt.) Ltd.	40 Hours	Hardware Engineer	01
9	Maintaining Microsoft SQL Server 2008 Database	Net Assist International (Pvt.) Ltd.	40 Hours	Programmers / Database and System Administrators	02
10	Contract Management and Procurement Management	ICTAD	32 days Fridays	Engineers	02
11	Computer Aided to Project Management using MS Project 2010	Distance learning Center	08 days Thursdays	Engineers	02
12	Mechanical Engineering Design	IESL	15 Saturdays	M.EE.	02
13	Design of Electrical Installation	IESL	07 Saturdays	Electrical Engineers	02
14	Practical Training for Engineers	Engineering Organizations	09 months 02 days per week	Mechanical Engineers	03
15	Supervision of Maintenance of Construction Equipment Hydraulic and Transmission	CETRAC	05 Days	Engineering Assistants (Mechanical)	02
16	Advance Certificate Course on Laboratory Management	NIBM	06 Months	Lab Assistant	02
17	Maintenance of Hydraulic Systems	CETRAC	10 Days	Mechanics	01
18	Maintenance of Diesel Engines	CETRAC	10 Days	Mechanics	02
19	Maintenance of Hydraulic and Mechatronic System	CETRAC	11 days	Mechanics	01
20	Heavy Equipment Operator training programme		05 weeks	Heavy Equipment Operators (Drivers)	06
	a) Basic /Light Construction Equipment Main Programme b) Backhoe Loader				
21	Short term training course CGTTI	CGTTI	3 - 6 Months Part Time	Skill Grades	02
22	For unscheduled courses to meet Specific Training Needs, with the approval of G.M/Addl. G.M. (C.S)				

Source: http://www.waterboard.lk/scripts/ASP/External_Training_Courses.asp

Appendix 6.3 (a)

Table 6.29 Assessment of CBOs on Suitability for Bulk Supply

CBO #	Recommended for Immediate Inclusion	Recommended (But Will Require Improvements)		Excluded
	Suitable for immediate inclusion	Requires improvements before inclusion	Stated problems must be first addressed	
1	✓			
2	✓			
3	✓			
4	✓			
5	✓			
6			✓	
7	✓			
8	✓			
9	✓			
10	✓			
11	✓			
12	✓			
13	✓			
14	✓			
15	✓			
16	✓			
17	✓			
18	✓			
19	✓			
20				✓
21		✓		
22		✓		
23		✓		
24	✓			
25	✓			
26				✓
27			✓	
28	✓			
29	✓			
30	✓			
31	✓			
32	✓			
33	✓			
34	✓			
35	✓			
36			✓	
37			✓	
38	✓			
39		✓		
40	✓			
41			✓	
42		✓		
43	✓			
44		✓		
45	✓			
46	✓			
47				✓
48	✓			
49	✓			
50	✓			
	36	06	05	03

Note: Information analysed from Table 3.1 – Summary of Conclusions and Recommendations on the Existing Water Supply Schemes, Final Report, “Status Survey of the Existing Water Supply Schemes for the Preparatory Survey on Anuradhapura North Integrated Water Supply Project” by Ceywater Consultants, August 2012.

Appendix 6.3 (b)

Summary Table: CBO Categories based on Suitability, Conditions, and Willingness to Connect

C B O	SUITABILITY		CONDITIONS		WILLINGNESS		CATEGORY				
	Suitable	Requires improvements	No Condition	With Condition	Yes	No / NC Undecided	1	2	3	4	5
1	✓			✓	✓				○		
2	✓			✓	✓				○		
3	✓			✓	✓				○		
4	✓			✓	✓				○		
5	✓		✓		✓		❖				
6		✓		✓		No comment				✓	
7	✓			✓	✓				○		
8	✓			✓	✓				○		
9	✓			✓	✓				○		
10	✓			✓		No					▪
11	✓			✓	✓				○		
12	✓			✓	✓				○		
13	✓			✓	✓				○		
14	✓			✓	✓				○		
15	✓		✓		✓		❖				
16	✓			✓	✓				○		
17	✓			✓	✓				○		
18	✓			✓	✓				○		
19	✓		✓		✓		❖				
20						Excluded					▪
21		✓	✓		✓			➤			
22		✓	✓		✓			➤			
23		✓	✓		✓			➤			
24	✓		✓		✓		❖				
25	✓			✓	✓				○		
26						Excluded					▪
27		✓		✓		No CBO				✓	
28	✓		✓		✓		❖				
29	✓			✓	✓				○		
30	✓			✓	✓				○		
31	✓		✓		✓		❖				
32	✓			✓	✓				○		
33	✓			✓	✓				○		
34	✓		✓		✓		❖				
35	✓			✓	✓				○		
36		✓		✓		Not functioning				✓	
37		✓	✓		✓			➤			
38	✓		✓		✓		❖				
39		✓	✓			Undecided				✓	
40	✓		✓		✓		❖				
41		✓		✓		Not piped				✓	
42		✓	✓		✓			➤			
43	✓			✓	✓				○		
44		✓	✓		✓			➤			
45	✓		✓		✓		❖				
46	✓			✓	✓				○		
47				✓		Excluded					▪
48	✓			✓	✓				○		
49	✓			✓	✓				○		
50	✓		✓		✓		❖				
	36	11	18	29	42	8	11	6	24	5	3

CHAPTER 7
ENVIRONMENTAL AND SOCIAL
CONSIDERATION

ඔබේ යොමුව
உமது தொடர்பு
Your Ref.

අපේ යොමුව
எமது தொடர்பு
Our Ref.

දිනය
திகதி
Date

මධ්‍යම පරිසර අධිකාරිය

மத்திய சுற்றாடல் அதிகாரசபை

NCPO/AD/07/590/2012 **Central Environmental Authority**



15/08/2012

"පරිසර පියස", 104, ඩෙන්සිල් කොබ්බෑකඩුව මාවත, මත්තරමුල්ල, ශ්‍රී ලංකාව.

"பரிசர பியச", 104, டென்சில் கொப்பேகடுவ மாவத்தை, பத்தரமுல்ல, ஸ்ரீ லங்கா.

"Parisara Piyasa", 104, Denzil Kobbekaduwa Mawatha, Battaramulla, Sri Lanka.

Web : www.cea.lk

North Central Provincial Office,
Pandulagama,
Anuradhapura.

Chairmen,
Mihinthe Pradeshiya Sabha,
Mihinthale.

Environmental Recommendation of the Central Environmental Authority to establish the proposed water treatment plant at Mahakanadarawa by the National Water Supply and Drainage Board

This has reference to Basic Information Questionnaire dated 17th July 2012 submitted to this Authority by National Water Supply and drainage board regarding the above matter.

This is to inform you that this authority recommended for granting approval to establish the above proposed water treatment plant at the above location subject to the following conditions, which should strictly adhered by the developer to abate Environmental impact likely to arise from the construction of the said activities.

CONDITIONS

- 01 1.1 The location of the proposed activities at the above site should conform to the zoning plan of the area.
- 1.2 All project activities should be carried out according to the conditions mention in the letter No. ANU/RDI/IEA/W/General/139 and dated 18.07.2012 of Regional Director Irrigation, Anuradhapura
- 1.3 The adjacent Irrigation Canal Reservations should not be disturbed or damage by the project activity and clearing and removal of trees should not be carried out within the reservations.
- 1.4 Landscaping could be carried out to enhance the Visual Environmental of the area.
- 02 2.1 Noise levels at the boundary of the project premises should be maintained at or below 55 dB (A) during day (between 6.00 hrs to 18.00 hrs) and at or below 45 dB(A) during the night time (between 18.00 hrs to 06.00 hrs)
- 2.2 Noise levels at the boundary of the industry activities during the construction stage should be maintained at or below 75 dB (A) during day (between 6.00 hrs to 21.00 hrs) and at or below 50 dB (A) during the night time (between 21.00 hrs to 06.00 hrs)
- 2.3 Operation of the excessive noise generating activities should be carried out in the enclosed area.

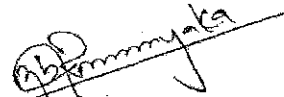
Chairman	Tel : 2872361, 2872348 Fax : 2872347	Director General	Tel : 2872359 Fax : 2872608	Gen. Office	Tel : 2872278, 2873447, 011 7877277-280 Hot Line : 2888999	Media Unit : 2873449
Deputy Director Generals	HRD, Admin & Finance Division Tel : 2865296 Fax : 2872301	Envt. Pollution Control Division	Tel : 2873453 Fax : 2872605	Envt. Mgt & Asses. Division	Tel : 2872388 Fax : 2872296	Envt. Edu. & Awareness Division Tel : 2872297 Fax : 2872609
Directors	2872607 (Admin) 2872301 (HRD), 7877290 (Finance) 2872601 (Admin), 2872603 (Finance)	2873452 (EPC), 2872606 (Lab) 2872402 (WM)	2872346 (NRM), 2876643 (EIA) 2867263 (GIU)	2867266 (EEA) Fax : 2872609	2872604 (Legal) Dir. (Western Province) Tel : 2862831 Fax : 2865293	



- 2.4 Installations of excessive noise and vibration generation activities shall be installed on a resilient foundation.
- 2.5 If you use the electricity generators, they should be installed in an enclosed area such a way to maintain the noise levels at the boundary as given in the No 2. I.
- 03 Adequate soil conservation & drainage management measures should be taken during construction and operation in consultation with the department of Agriculture, department of Irrigation & relevant Local Authority of the area.
- 04
 - 4.1 Effluent arising from the domestic activities shall be released into a proper designed Septic tank / soakage pit.
 - 4.2 Waste water (treated or untreated) should not be discharged into irrigation canals or Tanks.
 - 4.3 Oil or grease should not be discharged into surface water drainage or on the ground.
- 05
 - 5.1 Solid waste arising from the project activities should not be allowed to stagnate within the premises or dumped in neighboring lands and should not be disposed into any water body.
 - 5.2 Solid waste should be disposed in consultation with the Mihinthle Pradeshiya Sabha
 - 5.3 Solid waste should not be burnt in the open at any time.
 - 5.4 Effort should be taken to reduce the use of polythene, plastic, water bottles and cans etc.
- 06 Polythene or any polythene product of 20 μ m (20 microns) or below thickness shall not be used for the activity of the industry or domestic purposes.
07. Prior approval of the Central Environmental Authority shall be obtained for installation or operation of any machinery other than those stated in the application dated on 17/07/2012.
08. Prior approval of the Central Environmental Authority shall be obtained for any expansions, extensions or changes of the project activity stated in the application dated on 17/07/2012.
09. Any additional condition stipulated by the Central Environmental Authority as and when required for controlling any kind of pollution created by the operations of this project shall be strictly adhered to.
- 10 Good house keeping practices shall be adopted at every time.
- 11 The developer should obtain an Environmental Protection License in terms of the National Environmental (Protection and quality) Regulations No. 01 of 1990 published in the gazette Extra-Ordinary No 1533/16 dated 2008-01-25 from the Central Environmental Authority, three months prior to operation of the industry.
- 12 This Environmental Recommendation is issued to carry out only the permitted activities stated therein; it shall not and is not intended to confer the recipient there of any right to assert ownership to the land where the permitted activities are carried on.



- 13 This Environmental Recommendation in relation to the above project should in no way be considered as a final approval granted for the sitting of the said project at this location. In order for this project to be established at the proposed location the written approval of the Mihinhale Pradeshiya Sabha is required.
- 14 This Environmental Recommendation letter is valid only for one-year period from the date of issue.



R.M.G. Anura,
Act. Assistant Director,
Central Environmental Authority,
North Central Provincial Office.

Cc :

1. Regional Director, Department of Irrigation, Anuradhapura. -For your Information Please
2. Divisional Secretary, Divisional Secretariat Office, Mihinhale. -For your Information Please.
3. Deputy Director, Urban Development Authority, Anuradhapura. -For your Information Please
4. Deputy Director General (EM&A), Central Environmental Authority, Battaramulla - For your Information Please
5. Divisional Environmental Officer, Mihinhale -For your Information Please.
6. The Deputy General Manager (N/C), Regional support Center, National Water Supply & Drainage Board, Godage Mawatha, Anuradhapura. -For your Information Please.

Tele: 025 - 2225999 / 025-7877277

Fax: 025 - 2225999

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 உருது குறியீடு
 Your Ref

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 Our Ref.

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 திகதி
 Date

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மத்திய சுற்றுமடல் அதிகாரசபை

Central Environmental Authority

NCPO/AD/07/499/2012

"පරිසර පියස", 104, ඩෙන්සිල් කොබ්බෑකඩුව නගරය, පළාත්පාලන, ශ්‍රී ලංකාව.

"பரிசர பியச", 104, டென்சில் கொப்புகடுவ மாவட்டம், பத்தரமுல்லை, ஸ்ரீ லங்கா

23/02/2012 "Parisara Piyasa", 104, Denzil Kobbekaduwa Mawatha, Battaramulla, Sri Lanka.
 North Central Provincial Office.
 Pandulagasma,
 Anuradhapura.



Chairmen,
 Horowpothana Pradeshiya Sabha,
 Horowpothana.

Dear Sir,

OBTAINING ENVIROMENTAL RECOMMENDATION FROM THE CENTRAL ENVIROMENTAL AUTHORITY FOR THE WATER PURIFICATION PLANT AT WAHALKADA PROPOSED BY THE NATIONAL WATER SUPPLY AND DRAINAGE BOARD

This has reference to Nation Water Supply and drainage board application dated 13th January 2012 regarding the above matter.

This is to inform you that this authority recommended granting approval to establish the above proposed water Purification plant at the above location subject to the following conditions. Which should strictly adhered by the developer to abate Environmental impact likely to arise from the construction of the said activities.

CONDITION

- 01 1.1 The location of the proposed activities at the above site should conform to the zoning plan of the area.
- 1.2 Consent from the land owner should be obtained in prior to commence any activity within the site.
- 1.3 The ownership consent of the relevant land of this project shall be confirmed to this Authority by the project proponent before commencing the construction activities.
- 1.4 No construction activity either temporary or permanent will be allowed in the reservation area. Landscaping could be carried out to enhance the Visual Environmental of the area.
- 02 2.1 Noise levels at the boundary of the project premises should be maintained at or below 55 dB (A) during day (between 6.00 hrs to 18.00 hrs) and at or below 45 dB(A) during the night time (between 18.00 hrs to 06.00 hrs)
- 2.2 Noise levels at the boundary of the project activities during the construction stage should be maintained at or below 75 dB (A) during day (between 6.00 hrs to 21.00 hrs) and at or below 50 dB (A) during the night time (between 21.00 hrs to 06.00 hrs)

Chairman	Tel : 2872361, 2872349 Fax : 2872347	Director General	Tel : 2872359 Fax : 2872368	Gen. Office	Tel : 2872278, 2872283, 2873447, 011 7877277-260 Hot Line : 2858993	Media Unit : 2873449
Deputy Director General	HRD, Admin & Finance Division Tel : 2866296 Fax : 2872301	Envr. Pollution Control Division	Tel : 2873453 Fax : 2872605	Envr. Mgt. & Asses. Division	Tel : 2872383 Fax : 2872286	Envr. Edu. & Awareness Division Tel : 2872397 Fax : 2872409
Directors	2872607 (Admin) 2872301 (HRD), 7877290 (Finance) 2872601 (Admin), 2872603 (Finance)	2873483 (EPC), 2872606 (Lab) 2872403 (WMI)	2872346 (NRM), 2873442 (EIA) 2872603 (R & SP)	2867286 (EIA) Fax : 2872603	2872604 (Legal) Dir. (Western Province) Tel : 2862331 Fax : 2865283	



- 2.3 Operation of the excessive noise generating activities should be carried out in the enclosed area.
- 2.4 Installations of excessive noise and vibration generation activities shall be installed on a resilient foundation.
- 2.5 If you use the electricity generators, they should be installed in an enclosed area such a way to maintain the noise levels at the boundary as given in the No 2.1.
- 03 Adequate soil conservation & drainage management measures should be taken during construction and operation in consultation with the department of Agriculture, department of Irrigation & relevant Local Authority of the area.
- 04 4.1 Effluent arising from the domestic activities shall be released into a proper designed Septic tank / soakage pit.
- 4.2 Waste water (treated or untreated) should not be discharged into irrigation canals or Tanks.
- 4.3 Oil or grease should not be discharged into surface water drainage or on the ground.
- 05 5.1 The method of disposal of solid waste should be intimated to the relevant local authority and approval obtained.
- 5.2 Solid waste arising from the project activities should not be allowed to stagnate within the premises or dumped in neighboring lands and should not be disposed into any water body.
- 5.3 Solid waste should not be burnt in the open at any time.
- 5.4 Necessary arrangements should be provided to segregate the waste at the point of generation.
- 5.5 All recyclable solid waste such as polythene, Plastic, Glass Metal and Paper should be collected separately and dispatched to recycling centers periodically.
- 5.6 Solid waste, which cannot be used for recycling should be disposed in consultation with the Horowpothana Pradeshiya Sabha.
- 5.7 Effort should be taken to reduce the use of polythene, plastic, water bottles and cans etc.
- 5.8 Necessary guidelines for proper management of solid waste could be obtained from the solid waste Management division of the Central Environmental Authority.
- 06 Polythene or any polythene product of 20 μ m (20 microns) or below thickness shall not be used for the activity of the industry or domestic purposes.
- 07 The use of roads for transport particularly for heavy loads should be in agreement with the conditions stipulated by the respective Local Authority.
- 08 Suitable native tree species should be planted by the operator to minimize wind erosion and to enhance the aesthetic quality of the surroundings.
- 09 Any type of construction shall not be done within 100m limit from the full supply level of the tank of Wahalkada.



- 10 Prior approval of the Central Environmental Authority shall be obtained for installation or operation of any machinery other than those stated in the application dated 13/01/2012.
- 11 Prior approval of the Central Environmental Authority shall be obtained for any expansion, extensions or changes to the industry process or operation stated in the application dated 13/01/2012.
- 12 Any additional condition stipulated by the Central Environmental Authority as and when required for controlling any kind of pollution created by the operations of this project shall be strictly adhered to.
- 13 Good house keeping practices shall be adopted at every time.
- 14 The developer should obtain an Environmental Protection License in terms of the National Environmental (Protection and quality) Regulations No. 01 of 1990 published in the gazette Extra-Ordinary No 1533/16 dated 2008-01-25 from the Central Environmental Authority, three months prior to operation of the project and terms and conditions there in should be strictly adhere to.
- 15 This approval letter issued in relation to the above project should in no way be considered as a final approval granted for the sitting of the said project at this location. In order for this project to be established at the proposed location the written approval of the Horowpothana Pradeshiya Sabha is required.
- 16 This Environmental Recommendation letter is valid only for one-year period from the date of issue.

Yours faithfully,

K.P. Welikannage,
Act. Deputy Director,
Central Environmental Authority,
North Central Provincial Office.

Cc :

1. Divisional Secretary, Divisional Secretariat Office, Horowpothana. -For your Information Please.
2. Director, Department of Irrigation, Anuradhapura. -For your Information Please.
3. District Forest Officer, Forest Department, Anuradhapura. - For your Information Please
4. Deputy Director General (EM&A), Central Environmental Authority, Battaramulla - For your Information Please
5. Chief Engineer, Regional support Center, National Water Supply & Drainage Board, Godage Mawatha, Anuradhapura. -For your Information Please.
6. Divisional Environmental Officer, Horowpothana. -For your Information Please.

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 Telephone No. 011-3255755
 Director-General
 011-32552252



20/6/14/AR
 04.10.2011

Email: arch@slamania.lanka.net
 Web site: www.archaeology.gov.lk

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 DEPARTMENT OF ARCHAEOLOGY

Government of the Democratic Socialist Republic of Sri Lanka

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 Telegrams

04.10.2011

Deputy General Manager,
 National Water Supply & Drainage Board,
 Godage Mawatha,
 Anuradhapura.

Dear Sir,

Anuradhapura North Integrated Water Supply Project

With reference to your letter no. RSC/NC/SP/Anu-4 and dated 22.09.2011.

According to the field visit carried out on 20th September 2011, we can confirm that there won't be any archeological impacts due to the construction activities of Anuradhapura North Integrated Water Supply Project and we can approve the construction activities in the selected Divisional Secretary areas in Anuradhapura district.

Furthermore I would like to appreciate your effort on initiating a project like this to solve the problem of water scarcity of the people in these areas. Please inform me if there are further changes in the selected sites so that I can send an archeological officer to inspect those areas as well.

I wish all the best for this Anuradhapura North Integrated Water Project activities and hope the people in these areas will be benefited by a safe pipe boring water supply system in future.

Thanking you,
Yours faithfully,

Mahipala Weerakody
 Deputy Director (North / North Central)

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Director-General } 2694727
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General Office } 2694727



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Archaeological Department

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Government of the Democratic Socialist Republic of Sri Lanka

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Sir Marcus Fernando Mawatha,
Colombo 7.

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ඔබගේ අංක: ආර්එස්සී/එස්සී/එස්සී/එච්සී-05(vII) හා 2011.11.22
දිනැති ලිපිය හා බැඳේ.

ඒ අනුව ව්‍යාපෘතියට අයත් ඉදිකිරීම් ස්ථාන පරික්ෂා කිරීම සඳහා සහභාගි වූ
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එම කිරීමෙන් පසුව අනුව ඔබ ආයතනය විසින් පෙන්වා දෙනු ලැබූ පහත ස්ථාන
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විශේෂඥයන් කෙරෙහි බැඳී කාරුණිකව දන්වා සිටිමි.

යෝජිත ස්ථාන :-

- 01. පුළුස්කඩවල නම්කඩ - ජල කුලීන් හා කාර්යාල ගොඩනැගිලි ඇතුළු ඉදිකිරීම.
- 02. කපුගොල්ලුව වීරසෝලය - ජල කුලීන් හා කාර්යාල ගොඩනැගිලි ඇතුළු ඉදිකිරීම.
- 03. වාහල්කඩවැව දකුණු ඇල - තුලුච්ච(Intake) හා අදාළ ඉදිකිරීම.
- 04. කහවගොල්ලුව වාහල්කඩ පාර - ජල කුලීන් හා කාර්යාල ගොඩනැගිලි ඇතුළු ඉදිකිරීම.
- 05. කහවගොල්ලුව පදවිය පාර - ජල කුලීන් සහ යෝජිත කාර්යාල ගොඩනැගිලි ඇතුළු ඉදිකිරීම.
- 06. කේශයාවැව ග්‍රෙවල් කන්ද - ජල කුලීන් හා කාර්යාල ගොඩනැගිලි ඇතුළු ඉදිකිරීම.
- 07. පදවිය කුඹුණුවැව - ජල කුලීන් හා කාර්යාල ගොඩනැගිලි ඇතුළු ඉදිකිරීම.
- 08. මැදවව්විය ඇසකඩ - ජල කුලීන් හා කාර්යාල ගොඩනැගිලි ඇතුළු ඉදිකිරීම.
- 09. මැදවව්විය කඩවත්තම - ජල කුලීන් හා කාර්යාල ගොඩනැගිලි ඇතුළු ඉදිකිරීම.

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-(02)-

10. කතයාව සිට රඹුට් දෙසට විහිදෙන - ජල පවිත්‍රාශාරය තුළටුම් (Intake) සහ අදාළ මාර්ගය අසල අදාළ ඉදිකිරීම්

කොන්දේසි :-

- 01. අදාළ සියළුම ඉදිකිරීම් කටයුතු සඳහා භූමිය කැබිම් කටයුතු වලදී යම් පුරාවිද්‍යාත්මක අනාවරණය වුවහොත් කැබිම් නවත්වා පුරාවිද්‍යා දෙපාර්තමේන්තුව දැනුවත් කළයුතුය.
- 02. ජලය ප්‍රවාහන කටයුතු සඳහා ජල තල මාර්ග කැබිම් කරන ආවස්ථාවලදී එකී මාර්ග ස්ථාන පිළිබඳ පූර්ව දැනුවත් කිරීමක් සිදුකිරීම.
- 03. ඉදිකිරීම් සඳහා කැබිම් කරන ආවස්ථාව වලදී අදාළ ස්ථානය අයත්වන පුරාවිද්‍යා කලාප නිලධාරීන් සම්බන්ධ කිරීම සඳහා එකී දිනවකවානු පිළිබඳ පූර්ව දැනුවත් කිරීමක් සිදුකිරීම.

මහින්ද විරක්කොඩි
 පුරාවිද්‍යා නියෝජ්‍ය අධ්‍යක්ෂ (උතුරු මැද)
 මහින්ද විරක්කොඩි
 නියෝජ්‍ය අධ්‍යක්ෂ (උතුරු මැද,
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 එස ශ්‍රී ඉන් කොට්ඨ මාවත
 කුරුමිපුර.

පිටපත් :-

- 01. පුරාවිද්‍යා අධ්‍යක්ෂ ජනරාල්තුමා, පුරාවිද්‍යා දෙපාර්තමේන්තුව, කොළඹ - කාරකව දැ.ඔ.ස

*Fig. Intake table
 for survey for the
 provision for Sanitary
 of other lands.
 09/07/2012*

Regional Archaeological Office,
Anuradhapura.
Ref. NC/Reservation/01/v
Date. 06.07.2012

Regional Manager
NWSDB
Anuradhapura.

Anuradhapura North Integrated Water Supply Project

This is with reference to your letter ref. RSC/NC/SP/ANU/-05(vii) of dated 22 September 2011.

Accordingly, I received an inspection report from our officer, after site visits of proposed lands to be used for the constructions under the project.

As per the inspection report, we are please to inform you that, the following plots of lands, which were shown to us by your officers, are able to provide Archaeological Clearance and we have no objections on construction works of the Proposed Lands, however, need to agree upon the Conditions enforced by the Archaeological Department.

Proposed Lands

01. Puliyankadawala Nambakada	-	Water Tower and Office Building
02. Kapugollewa Weerasole	-	Water Tower and Office Building
03. Wahalkada Wewa Right bank Canal	-	Intake and other
04. Kahatagollewa Wahalkada Road	-	Water Tower and Office Building
05. Kahatagollewa Padaviya Road	-	Proposed Water Tower and Office Building
06. Bogayawewa Gravel Kanda	-	Water Tower and Office Building
07. Padaviya Kumbuk Wewa	-	Water Tower and Office Building
08. Medawachchiya Ethakada	-	Water Tower and Office Building
09. Medawachchiya Kadawathgama	-	Water Tower and Office Building
10. Land at side of the Canal from Kandarawa to Rambewa	-	Intake and other

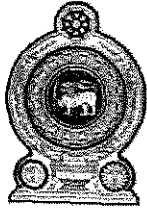
Conditions:

- 1) It is required to notify the Archaeology Department Immediately, if any archaeologically important/valuable Item, location found during the activity of Project such as Excavation for treatment plant components, office buildings and major transmission mains etc.
- 2) It is required to notify and obtain prior approvals from the Archaeological Department, before any excavation for the Distribution Pipelines.
- 3) It is required to notify in advance of any excavation for the proposed construction works, in order to make necessary arrangements with the Regional Archaeological Officers.

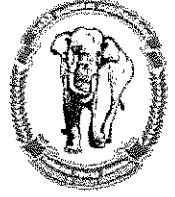
Signed By,
Mahinda Weerakkody
Deputy Director, Archaeology (NC)

Cc.

01. Deputy Director (Movable & Immovable assets), Archaeology Department, Colombo.



වනජීවී සංරක්ෂණ දෙපාර්තමේන්තුව
வனசீவராசிகள் பாதுகாப்புத் திணைக்களம்
DEPARTMENT OF WILDLIFE CONSERVATION



ප්‍රධාන කාර්යාලය - අංක 811/අ, ජයන්තිපුර පාර, බත්තරමුල්ල
பிரதான அலுவலகம், இல. 811/அ, ஜயந்திபுர வீதி, பத்தரமுல்லை
Head Office - No. 811/A, Jayanthipura Road, Battaramulla

මගේ අංකය
எனது இல.
My No.

WL/06/028/460 -ii

ඔබේ අංකය
உமது இல.
Your No.

දිනය
திகதி
Date 2012.07.02

Eng. L.L.A. Pieris,
Deputy General Manager (NC),
National Water Supply & Drainage Board,
Anuradhapura.

Dear Sir,

**Request for the Approval of proposed Anuradhapura
North Integrated Water Supply Project.**

This has reference to your letter no RSC/NC/SP/ANU – 05 (Vol - 3) dated 2012.07.24.

02. I kindly inform you the proposed treatment plant site (8° 23'26.86"N - 80° 31'58.51"E, 8° 23'25.38"N - 80° 31'55.89"E, 8° 23'29.40"N - 80° 31'53.35"E, 8° 23'31.88"N - 80°31'50.70"E, 8°23'33.40"N - 80° 31'45.55"E, 8°23'35.29"N - 80°31'45.93"E, 8°23'34.46"N - 80°31'49.99"E, 8°23'32.62"N - 80°31'53.78"E, 8°23'30.24"N - 80°31'55.88E GPS coordination) is situated outside the Mahakanadarawa Wildlife Sanctuary, declared by Department of Wildlife Conservation. Therefore Department of Wildlife Conservation has no objection of construction of a treatment plant at the said location.

03. Please note that all project activities should be adhered with the provisions of Fauna and Flora Protection Ordinance.

Yours Sincerely,

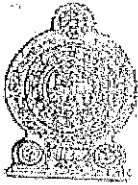
H. D. Ratnayake
Director (Operations)
For Director General.

Copy

Asst. Director (North Western)

for your information please

දුරකථන
தொலைபேசி
Telephone :
අධ්‍යක්ෂ ජනරාල් - 011 2888581
අධ්‍යක්ෂ (පාලන) - 011 2888583
අධ්‍යක්ෂ (වෙළෙඳපොළ) - 011 2888582
අධ්‍යක්ෂ (මුද්‍රණ) - 011 2888584



සමූහ ජලාපයායෝජන
විමර්ශන දෙපාර්තමේන්තුව
IRRIGATION DEPARTMENT

110, මහලක්ෂ්මි මාවත, කොළඹ 07 130, මහලක්ෂ්මි මාවත, කොළඹ 07 230, හාමුබාදා මාවත, කොළඹ 07
Sri Lanka



රාජ්‍ය සභා
සභාපතිතුමා
Director-General

දුරකථන
දුරකථන අංකය
Telephone

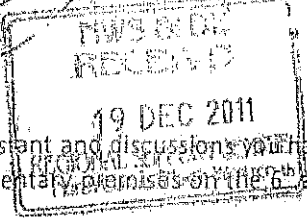
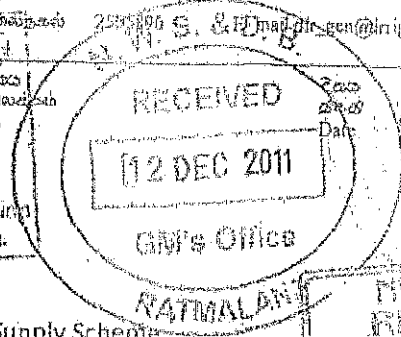
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විද්‍යුත් තැපෑල අංකය
E-mail

විද්‍යුත් තැපෑල
අංකය
My No

70 000 673 / WS

13 DEC 2011

ඔබගේ අංකය
Your No



Chairman
National Water Supply & Drainage Board

Sub: Water Source for Anuradhapura North Water Supply Scheme

Reference your letter number AGM (JPU)/Yen loan/3.7/2011 (254) dated 7th instant and discussions you had with Eng. H M Jayatillake, Director (Irrigation & Water Management) at the parliamentary premises on the 6th and my even number dated 2nd December 2011 regarding above.

2. The Department considered your request carefully and accordingly approval is hereby granted to proceed with the proposal for abstraction of water from both Mahakanadarawa Wewa and Wahalkada Wewa in combination with abstraction from Mahagalkadawala Wewa for Anuradhapura North Water Supply Scheme, on the understanding that the people living in and around Mahakanadarawa area are immediate beneficiaries.

3. However, it needs to be mentioned that since Mahakanadarawa Wewa has comparatively longer dry spells, it is essential that Mahagalkadawala Wewa is also developed as either a primary or supplementary source to ensure continuous abstraction. Further it will also be necessary to include funds in the Water Supply Project estimate to improve Mahakanadarawa Canal System in order to save water to be withdrawn for water supply. Beside this a meeting of farmer representatives of Mahakanadarawa can be arranged during first half of the month in order to get their concurrence.

4. Regarding the development of Mahagalkadawala Wewa, this tank has not been possible to be developed for use as an irrigation reservoir as the capacity required is much larger and there are submergence issues. In contrast such a problem is unlikely to arise if it is to be developed only for water supply source since the capacity required will be much less. The cost then also will not be excessive and the work can be completed within one year.

5. Further the Ministry of Irrigation & Water Resources Management and Irrigation Department are planning to develop Lower Malwathu Oya Reservoir in the same area which is of much larger capacity and intended to cater for both agricultural and domestic water uses. Therefore any future increase in demand for water supply scheme can be met from this reservoir. The Ministry expects that this work can be started when the EIA is completed.

Dr. (Eng.) G G A Gbdaliyadda
Director General of Irrigation

(Handwritten: G.G.A.G.)
Pis - note
12/12

(Handwritten: DAMEN/C)
Pis note
12/12

(Handwritten: Addl Gen (N/C) / (P/W)
n note
12/12

- Cc: 1. Secretary / Ministry of Irrigation & Water Resources Management : fi pl.
- 2. General Manager, NWSDB: fi & na pl.
- 3. Director General, External Resources Department: - do -
- 4. RDI, Anuradhapura: - do -

(Handwritten: P. Jayawardene, Pis note & file, 22/12)

Planning & Designs	2588127	As	App.7.1 - 12	2588625	Regional Development & Construction	2588879
Specialized Services & Training	2586839	Plan	Implementation	2584485	Irrigation & Water Management	2586311
Finance	2588329	Human	Resources	-----		

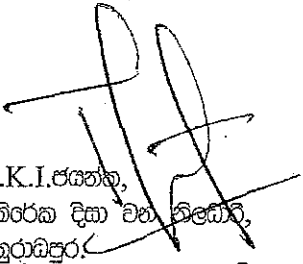
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දිසා වන කාර්යාලය,
අනුරාධපුර.
2012.06.17 වන දින.

සහකාර සාමාන්‍යාධිකාරී (උ.මැද),
ප්‍රාදේශීය සහාය සේවා මධ්‍යස්ථානය,
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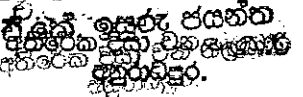
අනුරාධපුර ඒකාබද්ධ ජල යෝජනා ක්‍රමයේ ඉදිකිරීම් කටයුතු සඳහා ඉඩම් ලබාගැනීම.

උක්ත කරුණට අදාළ ඔබගේ අංක නිසා/උම/ප්‍රාදේශ/අනු-උතුර/ඉඩම්/01 සහ 2012.06.18 දිනැති ලිපිය හා සබැඳේ

02. ඒ අනුව ඔබ ආයතනය මගින් ක්‍රියාත්මක කිරීමට යෝජිත ඉහත ජල ව්‍යාපෘතියේ මූලික මිණුම් කටයුතු සහ පාංශු විශ්ලේශණය කර ගැනීම සඳහා මෙයින් අවසරය ලබාදෙන බව කාරුණිකව දන්වා සිටිමි. ඊට අදාළ ඉඩම් නිදහස් කිරීමේ කටයුතු ඉදිරියේදී සිදු කිරීමට කටයුතු කරන බවද දන්වා සිටින අතර, අදාළ මිණුම් කටයුතු සිදු කිරීමට ප්‍රථම අදාළ කොට්ඨාශය හාර අඩවි වන නිලධාරී දැනුවත් කරන ලෙසද වැඩිදුරටත් දන්වා සිටිමි.


A.K.I.ජයන්ත,
අතිරේක දිසා වන නිලධාරී,
අනුරාධපුර.

අත්:කමේ: H.L.A.ගමගේ,
දිසා වන නිලධාරී,
අනුරාධපුර.


දිසා වන නිලධාරී,
අනුරාධපුර.

පිටපත් :-

- 01 අඩවි වන නිලධාරී, කහරගස්දිගිලිය. - අවශ්‍ය සම්බන්ධීකරණ කටයුතු සඳහා සහ දැන ගැනීම සඳහා.
- 02. අඩවි වන නිලධාරී, කැබිනිගොල්ලෑව. - අවශ්‍ය සම්බන්ධීකරණ කටයුතු සඳහා සහ දැන ගැනීම සඳහා.
- 03. අඩවි වන නිලධාරී, මැදවිච්චිය. - අවශ්‍ය සම්බන්ධීකරණ කටයුතු සඳහා සහ දැන ගැනීම සඳහා.

By S. Lakshmi
for F.M.P.P.A

Family	Scientific Name	English Name	Sinhala Name	TS	CS	M 1	M 2	M 3	M 4	M 5	M 6	W 1	W 2	W 5	W 6	W 7	W 9	W 10	W 11	W 12	W 13	W 14	W 15	W 16	MT & SV	WT & SV	
Boidae	<i>Python molurus</i>	Indian python	Pimbura	IN								+++													+++	+++	
Colubridae	<i>Ptyas mucosa</i>	Rat snake	Gerandiya.	IN		+++		+++				+++	+++							+++						+++	+++
Elapidae	<i>Naja naja</i>	Indian cobra	Naya	IN																							
Gekkonidae	<i>Hemidactylus sp.</i>			IN		+		+				+								+	+			+	+	+	
Scincidae	<i>Eutropis carinata</i>	Common skink	Sulaba hikanala	IN		+		+				+	+		+	+	+			+	+		+	+	+	+	
Scincidae	<i>Eutropis macularia</i>	Bronzegreen little skink	Pingu hikanala	IN																					+	+	
Testudinidae	<i>Geochelone elegans</i>	Indian star tortoise	Mevara ibba/ Taraka ibba	IN	VU																				++	+	
Varanidae	<i>Varanus bengalensis</i>	Land monitor	Talagoya	IN		+	+++	+	+	+++	+++	+	+	+++	+	+++	+	+	+++	+	+	+++	+	+	+	+	+
Viperidae	<i>Daboia russelli</i>	Russell's viper	Tith polonga.	IN		+++		+++				+++								+++						+++	+++
AMPHIBIANS																											
Bufoidea	<i>Duttaphrynus melanostictus</i>	Common house toad	Sulaba geai gamba	ED		+		+				+														+	+
Dicroglossidae	<i>Euphyctis cyanophlyctis</i>	Skipper frog	Utpatana madiya	IN																						+	+
Dicroglossidae	<i>Euphyctis hexadactylus</i>	Sixtoe green frog	SaBangi pala madiya	IN		+																					
BIRDS																											
Accipitridae	<i>Accipiter badius</i>	Shikra	Kurulugoya	BR		+	+		+			+	+		+			+	+						+	+	+
Accipitridae	<i>Haliastur indus</i>	Brahminy Kite	Bamunu Piyakussa	BR		+			+	+		+						+								+	+
Accipitridae	<i>Spilornis cheela</i>	Crested Serpent Eagle	Silu Sarapakussa	BR		+		+	+			+	+					+	+							+	+
Aegithinidae	<i>Aegithina tibia</i>	Common Iora	Podu Iorawa	BR		+		+	+			+	+		+	+	+	+								+	+
Alaudidae	<i>Alauda gulgula</i>	Oriental Skylark	Peradigu Ahas Thulikawa	BR		+						+														+	+
Alcedinidae	<i>Alcedo atthis</i>	Common Kingfisher	Mal Pilihuduwa	BR		+																				+	
Alcedinidae	<i>Halcyon smyrnensis</i>	White-throated Kingfisher	Layasudu Madi-pilihuduwa	BR		+	+	+		+		+	+													+	+
Anhingidae	<i>Anhinga melanogaster</i>	Oriental Darter	Abikava	BR																						+	+
Apodidae	<i>Cypsiurus balasiensis</i>	Asian Palm Swift	Asiaa Thal-thurithaya	BR		+	+		+	+	+	+	+	+	+	+	+	+								+	+
Ardeidae	<i>Ardea cinerea</i>	Grey Heron	Alu Koka	BR																						+	+
Ardeidae	<i>Ardea purpurea</i>	Purple Heron	Karawal Koka	BR																						+	+
Ardeidae	<i>Ardeola grayii</i>	Indian Pond Heron	Kana-koka	BR		+																				+	+
Ardeidae	<i>Bubulcus ibis</i>	Cattle Egret	Geri-koka	BR		+						+	+													+	+
Ardeidae	<i>Casmerodius albus</i>	Great Egret	Sudu maha-koka	BR																						+	+
Ardeidae	<i>Egretta garzetta</i>	Little Egret	Punchi Anu-koka	BR		+																				+	+
Ardeidae	<i>Mesophox intermedia</i>	Intermediate Egret	Sudu Madi-koka	BR																						+	+
Bucerotidae	<i>Anthracocephalus coronatus</i>	Malabar Pied Hornbill	Poru-Kandaththa	BR	NT	+																				+	+
Burhinidae	<i>Burhinus oedicnemus</i>	Eurasian Thick-knee	Golu-kiraiwa	BR	NT																					+	
Campophagidae	<i>Pericrocotus cinnamomeus</i>	Small Minivet	Punchi Miniviththa	BR		+		+																		+	+
Caprimulgidae	<i>Caprimulgus asiaticus</i>	Common Nightjar	Indu Bimbassa	BR								+														+	+
Charadriidae	<i>Vanellus indicus</i>	Red-wattled Lapwing	Rath-yatimal Kirella	BR		+																				+	+
Ciconiidae	<i>Anastomus oscitans</i>	Asian Openbill	Vivarathuduwa	BR																						+	+
Ciconiidae	<i>Ciconia episcopus</i>	Woolly-necked Stork	Padili Manawa	BR	NT																					+	+
Ciconiidae	<i>Mycteria leucocephala</i>	Painted Stork	Lathuwakiya	BR																						+	+
Cisticolidae	<i>Prinia inornata</i>	Plain Prinia	Sarala Priniya	BR		+		+		+	+	+			+	+										+	+
Cisticolidae	<i>Prinia socialis</i>	Ashy Prinia	Alu Priniya	BR								+														+	+
Columbidae	<i>Chalcophaps indica</i>	Emerald Dove	Neela-Kobeiyya	BR		+		+			+	+			+											+	+
Columbidae	<i>Ducula aenea</i>	Green Imperial Pigeon	Neela Mahagoya	BR		+			+																	+	+
Columbidae	<i>Streptopelia chinensis</i>	Spotted Dove	Alu Kobeiyya	BR		+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
Columbidae	<i>Treron bicincta</i>	Orange-breasted Green-pigeon	Laya-ran Batagoya	BR		+																				+	+
Coraciidae	<i>Coracias benghalensis</i>	Indian Koller	Dumbonna	BR		+							+													+	+
Corvidae	<i>Corvus leuicollis</i>	Large-billed Crow	Kalu Kaputa	BR		+	+		+			+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
Corvidae	<i>Corvus splendens</i>	House Crow	Kolamba Kaputa	BR					+																	+	+

Family	Scientific Name	English Name	Sinhala Name	TS	CS	M 1	M 2	M 3	M 4	M 5	M 6	W 1	W 2	W 5	W 6	W 7	W 9	W 10	W 11	W 12	W 13	W 14	W 15	W 16	MT & SV	WT & SV
Elephantidae	<i>Elephas maximus</i>	Elephant	Etha / Aliya	IN	VU			+				+			+					+++	+		+		+	+
Herpestidae	<i>Herpestes edwardsii</i>	Grey mongoose	Alu Mugatiya	IN		+		+	+		+	+			+	+	+			+++	+	+	+		+	+
Hystriidae	<i>Hystrix indica</i>	Procupine	Ittewa	IN		+		+			+	+			+					+++	+		+	+	+	+
Leporidae	<i>Lepus nigricollis</i>	Black-naped hare	Wal Hawa	IN		+	+		+		+	+			+		+			+++	+	+++	+	+	+	+
Pteropodidae	<i>Pteropus giganteus</i>	Flying fox	Ma-vavula	IN								+			+										+	+
Sciuridae	<i>Funambulus palmarum</i>	Palm squirrel	Leena	IN		+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
Sciuridae	<i>Ratufa macroura</i>	Giant squirrel	Dandu-Jeena	IN	VU			+				+++													+	+
Suidae	<i>Sus scrofa</i>	Wild boar	Wal Ura	IN		+		+	+	+	+	+			+					+++	+		+	+	+	+
Tragulidae	<i>Moschiola meminna</i>	Sri Lanka mouse-deer	Sri Lanka Meminna	ED		+						+													+	+
Ursidae	<i>Melursus ursinus</i>	Sloth bear	Walaha	IN	EN																					+
				IN																						
FISHES				IN																						
Channidae	<i>Channa striata</i>	Murrel	Loola	IN																					+	+
Cichlidae	<i>Etoplus suratensis</i>	Pearl spot	Koraliya	IN																					+	+
Cichlidae	<i>Oreochromis mosambicus</i>	Tilapia	Tilapia/ Koraliya/ Japan batta	EX																					+	+
Cichlidae	<i>Oreochromis niloticus</i>	Tilapia	Tilapia/ Koraliya	EX																					+	+
Cobitidae	<i>Lepidocephalichthys thermalis</i>	Common spiny loach	Thith Ahirawa	IN																					+	+
Cyprinidae	<i>Puntius bimaculatus</i>	Redside barb	Ipili Kadaya	IN																					+	+
Cyprinidae	<i>Puntius sarana</i>	Olive barb	Mas Pethiya	IN																					+	+
Cyprinidae	<i>Puntius singhala</i>	Filamented Barb	Dankola Pethiya	ED																					+	+
Cyprinidae	<i>Rasbora carverii</i>	Carverii Rasbora	Caveri Randiya	IN																					+	+
Cyprinidae	<i>Rasbora daniconius</i>	Striped rasbora	Dandiya	IN																					+	+
Heteropneustidae	<i>Heteropneustes fossilis</i>	Stinging catfish	Hunga	IN																					+	+

**Meeting to discuss the status on the environmental compliance to project components in the
PREPARATORY STUDY ON ANURADHAPURA NORTH INTEGRATED WATER SUPPLY PROJECT.**

30th May 2012 at 10.00 a.m. at the JICA Study Team Office, Anuradhapura.

AGENDA FOR THE MEETING

1. Explanation of the Project.
2. Current status on environmental approvals
3. Necessary approval or permission from the authority side.
4. Necessary action to be taken from the proponent side.
5. Discussion on any other matters.

PREPARATORY STUDY ON ANURADHAPURA NORTH INTEGRATED WATER SUPPLY PROJECT

MINUTES OF MEETING

Date : 30 May 2012 **Time** : 1000 hrs
Location : JICA Study Team Office
Chaired by : Ms. Yasuko Kamegai, environmentalist of JICA Study Team
Present for :

1. Eng. S M D L K De Alwis	Regional Director Irrigation	Irrigation Department
2. Eng. Vijith Kodythuwakku	Divisional Irrigation Engineer	Irrigation Department
3. Eng. Y M M Ashir	Chief Engineer	NWSDB
4. MR. K B K Bandara	Divisional Env. Officer	CEA
5. Mr. S Gunathilaka	Divisional Env. Officer	CEA
6. Mr. W S Weragama	Assistant Director	Wild Life Conservation
7. Mr. Isuru Alawatta	Addl. District Forest Officer	Forest Department
8. Ms. Yasuko Kamegai	Environmentalist	JICA Study Team
9. Prof. Hemanthi Ranasinghe	Env. Specialist	JICA Study Team
10. Mr. Buddhika De Silva	Env. Specialist	JICA Study Team
11. Mr. M M P M Bandara	Assistant Engineer	JICA Study Team

Apologies for absence

1. Mr. H D N S Fernando	Assistant District Secretary	District Secretariat
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Minutes of Meeting:

<u>Item No</u>	<u>Description</u>	<u>Action by</u>
	<p><u>Introduction</u></p> <p>This meeting was held for gathering information from stakeholders and making confirmation of necessary action for the Project implementation and status review of the compliance requirements.</p> <p>The JICA Study Team Environmentalist Ms. Yasuko Kamegai welcomed all the participants and appreciated the presence of stakeholder officers for their valuable contribution for the meeting. She explained the Project Outline and the status of the Survey Works and invited the comments of stakeholders.</p>	<p>Note</p>
	<p><u>Compliance of Department of Forest Conservation</u></p> <p>In response to the compliance with regard to the Project, Mr. Isuru Alawatta, Addl. District Forest Officer of Forest Department, brought to the attention of the meeting, the proposed site for the Water Treatment Plant at Wahalkada Tank is located within the proposed Forest Reserve of Wahalkada. Further, the proposed site for the Water Treatment Plant at Mahakanadarawa will also be located in an area of Forest Land use. He informed the committee that under the 5 - 2001 Government Gazette in connection with the Forest Ordinance, any area having a forest land use comes under the jurisdiction of Forest Department. Therefore, for the above water treatment plants and other project components including overhead reservoir which would be located in government land with forest land use, permission needs to be sought from the Forest Department. He further informed that, the Forest Department declared their own boundary lines in both Tanks and the Maps could be referred at his Office. Finally, he suggested that the forest reserve would be released when the actual location would be informed by the Water Board.</p>	<p>NWSDB & JST</p>
	<p><u>Compliance of Department of Wild Life Conservation</u></p> <p>The representative from the Wild Life Conservation, Assistant Director Mr. W S Weragama, said he had discussions with the Head Office in this regard and they are of the view that if the water treatment plant at Mahakandarawa is located outside the Mahakandarawa Sanctuary, they do not have any objection. They have already prepared a letter to this effect and will be sent soon.</p>	<p>DWLC</p>

	<p><u>Compliance of Department of Irrigation</u></p> <p>Ms. Yasuko Kamegai informed that, during the informal discussion of clarifying environmental impact of this proposed Project, with the members of Irrigation Department under the Hon. Secretary, Ministry of Irrigation & Water Management. According to her, the Irrigation Department is not in a position of having the any type of water intake within the Tanks. However, they are in favour of extracting water for the Water Supply Project form the major discharge canals.</p> <p>The Regional Director Irrigation Department, Mr. S M D L K De Alwis explained the difficulty of allowing construction of any structures on or adjacent of the Tank Dam. He further stated that, these Tank Dams were built up in ancient period and since the stability of these Dams could not be assured for destructive constructions. Any type of intake structure inside the tank is not allowed by the Irrigation Department even if it would be Syphon type intake but suitable location from the major canal could be arranged. NWSDB needs to readjust the intake method accordingly. According to him the Irrigation Ordinance spelt out that, the Tank Reservation is up to HFL of a Tank in which, no construction can be allowed.</p>	NWSDB & JST
	<p>He further stated that proper consideration of catchment protection was required, as it could affect the water quality significantly. He requested the Project to allocate funds towards catchment protection.</p> <p>He further pointed out the fact that, even at present the Reservation of the Mahakanadarawa Water Tank has been used by Farmers for cultivation and therefore the water pollution, especially by the use of Agro Chemical could happen easily. Therefore, it is required to have a separate programme to minimise this adverse effect. Some examples were brought forward by him, such as enrichment of the upper catchment by planting, having programmes on promoting Organic Agriculture, Silt Trap and Bio Filters etc., to improve water quality and to minimise water treatment costs.</p>	NWSDB & JST
	<p>He proposed the Study Team to investigate the water quality of the surface water in tanks and the JICA Study Team Environmentalist, Ms. Yasuko Kamegai informed him, a study had already been commissioned by them in this regard.</p> <p>Mr. Alwis also suggested the Study Team to conduct a Bathymetric Survey in the Tanks with a view to arrive at the correct volume, so that the extraction rate could be finalised. He said that it was important to design the extraction in such a manner to cater to both Drinking and Irrigation demand without harming the optimum Tank operation. (In general, it is required to maintain a minimum of 2/3 of water for Irrigation and fishing purposes)</p> <p>He emphasised that further construction work should not affect irrigation network.</p>	NWSDB & JST
	<p>As the Tanks are catering to Fishing, it is required to get the approval from NAQDA (National Aquatic Development Agency).</p>	Note

	The RDI, states that, the conceptual designs of the water abstraction including intake and water treatment should be submitted to the Director General of Irrigation for his approval.	NWSDB & JST
	Usually, according to the RDI, the Project Concept needs to be notified to the Project Management Committee in the Department of Irrigation and their recommendations will be submitted to the Divisional Agricultural Committee. Once it is approved by the Divisional Agricultural Committee it will be submitted to the District Agricultural Committee. The recommendations are then submitted to the District Coordinating Committee in order to obtain their consent.	Note
	Prof. Hemanthi Ranasinghe suggested assigning a separate <i>District Coordinating Committee</i> on the Water Supply Project with the representation of all stakeholders under the Chairmanship of the District Secretary. She further said, it has been the experience in other Water Board Projects. i.e. DZUWSP	NWSDB & JST
	Mr. Alwis further informed that, with the proposed construction of Moragahakanda Reservoir, which would commence soon, the Mahaweli waters would come to the North Central Province. According to the plan, about 90% of this water will be allocated to the North Central Province. The Mahakanadarawa tank will receive about 50% of this water around year 2018. In this favourable situation, the drinking water intake from the Tank will not be an issue.	Note
	<p><u>Compliance of Central Environmental Authority.</u></p> <p>The Representatives from the Central Environmental Authority (CEA), confirmed that they have provided conditional approval for the Water Treatment Plant for the given location as in the Basic Information Questionnaires (BIQ). They emphasised the importance of having proper treatment of waste water from the Water Treatment Plant. The treatment process wastes such as sludge, any effluent or chemical wastes should not be disposed to the environment without treatment.</p> <p>Ms. Yasuko Kamegai assured that the treatment process would include proper sludge disposal system and hence such problem would not arise.</p>	NWSDB & JST
	The RDI, Mr Alwis said that, the Ministry of Irrigation and Water Management is ready to sign an MOU for the Project with Ministry of Water Supply for the required abstraction rate. He requested the Project to allocate funds towards <i>Awareness Programme</i> of Public and farming community on the Project and its merits. He assured that the Ministry of Irrigation & Water Management/Department of Irrigation were willing to undertake this task with the assistance of NWS&DB.	Irrg. Dept. & NWSDB

Meeting minutes 2

NWSDB and DSD held the explanation meeting to the direct affected people on 7th August, 8th September and 10th October.

The MOU

APPENDIX 9.10 (a)

JICA Funded Anuradhapura North Integrated Water Supply Project

QUESTIONNAIRE (HH)

A. Socio Economic Information:

1. District: Anuradhapura 2. Divisional Secretariat Division: Mihintale
 3. G.N. Division: 582 Bogohajaya 4. Village/town: Maha Kamadawana
 5. Name of the household head: D.A. Anurasiri
 6. Sex of the household head: M
 7. Respondent's Name: D.A. Anurasiri
 8. Relation to the head of the household: HH 9. Sex of the respondent: M
 10. Address of household: Track 01, Left Bank, Mahakamadawana

11. Telephone Numbers: 011-0886652

12. Ethnicity: Sinhala 13. Religion: Buddhist 14. Type of Family: 14.1 No. members in the family: 02

15. Characteristics of household

S.No.	Name	Relation to HH*	Age	Sex*	Marital Status*	Any disabilities*	Education*	Occupation*		Estimate total income
								Primary	Secondary	
1	D.A. Anurasiri*	HHH	46	Male	Married	NO	Class 8 Pass			19,000/-
2	H.A. Siriyanjani	wife	43	Female	Married	NO	Primary			
3										
4										
5										
6										
7										
8										
9										

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* Use numerical code:

Relationship to household head (HH)	Disability	Occupation	Religion
1. Wife/Hasband	1. Not disabled	1. Farming own land	1. Buddhism
2. Son	2. Major	2. Agricultural labour	2. Christianity
3. Daughter	3. Minor	3. Non-agriculture labour (skilled)	3. Hinduism
4. Father		4. Non-agriculture labour (unskilled)	4. Islam
5. Mother	Education	5. Fishing	5. Other
6. Brother	1. Illiterate	6. Weaving	
7. Sister	2. Can place signature	7. Livestock	Type of Family
8. Daughter in Law	3. Waiting for schooling	8. Commercial Activities	1. Nuclear
9. Son in law	4. Class I-V	9. Vendor (Specify)	2. Joint
10. Grand parents	5. Class VI-G.C.E. (O/L)	10. Government Services/ Executive	3. Extended
11. Grand children	6. G.C.E. (O/L) Pass	11. Government Services/ other grades	
12. Other (specify)	7. G.C.E. (A/L) Pass	12. Private Sector/ Executive	Estimate total income
	8. Undergraduate/Graduate	13. Private Sector/ other grades	1. <5000
Marital Status	9. Post Graduate	14. NGO Sector/ Executive	2. 5001 to 10000
1. Married	10. Other (specify)	15. NGO Sector/ other grades	3. 10001 to 15000
2. Unmarried		16. Armed forces	4. 15001 to 20000
3. Widow/Widower	Ethnicity	17. Police Home guard/Security Services	5. 20001 to 25000
4. Divorced	1. Sinhalese	18. Housewife	6. 25001 to 30000
5. Separated	2. Tamil	19. Retired person	7. 30001 to 40000
6. Others (specify)	3. Muslims	20. Student	8. 40001 to 50000
	4. Other	21. Child (0-5 age)	9. >50000
Sex		22. Unemployed	
1. Male		23. Other (specify)	
2. Female			

16. Other Asset owned:

Asset	Quantity	Asset	Quantity	Asset	Quantity
1. Bicycle	01	9. Motor Cycle	—	18. Washing machine	—
2. Tractor	—	10. Video/DVD player	—	19. Radio	01
3. Three Wheeler	—	11. Rice cooker	—	20. TV	01
4. Lorry	—	12. Gas cooker	—		
5. Bus	—	13. Oven	—	21. Other 1 (Specify).....	
6. Car/van	—	14. Refrigerator	—	22. Other 2 (Specify).....	
7. Harvester	—	15. Air conditioner	—		
8. Thresher	—	16. Blender/grinder	—		
		17. Water pump	—		

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17. Livestock Details

Type	Quantity	Type	Quantity
1. Poultry		3. Goat	
2. Cattle		4. Pigs	

18. Present condition of house where the AHH lives irrespective of the area(* Use numerical code)

1. Roof	2. Floor	3. Wall	4. Boundary wall	5. Overall type
1. Tiles	1. Mud	1. Mud	1. Barbed fencing	1. Single story
2. Aspaster	2. Stone	2. Brick Masonry	2. Tin Sheets	2. Two story
3. Concrete	3. Cement	3. Cudjant	3. Stone/Bricks	3. Three story
4. Tin/Zinc sheets	4. Concrete	4. Timber/ Tin sheets	4. Trees	4. Four story
5. Thatched	5. Tiles	5. Plank		5. Temporary shed

B. External Support:

19. Type of support from the government or any other agency? Total.....

Name of the support system	Nature of support*	Year started	If financial amount received Rs. (Monthly)
1. Samurdhi			
2. Janasaviya			
3. Pin Padi			
4. NGOs support			
5. Foreign remittance			
6. Other (Specify)			

(Use Numerical Code*:
 1. Loan 2. Training 3. Employment 4. Monthly financial support /remittance to the family
 5. Material 6. Other (Specify)

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C. Family Income and Expenditure Patterns:

20. Information on Family Expenditure (Monthly):

Item of Expenditure	Amount in Rs
1 Food	8,000.00
2 Clothing	3,000.00
3 Water	200.00
4 Firewood/Gas/Electricity	250.00
5 Dwelling house and other accommodation	—
6 Fuel for vehicles/Boats/Agricultural equipment	—
7 Medical/health	1,000.00
8 Education	—
9 Equipment/inputs (household utensils)	—
10 Communication/Transportation	2,000.00
11 Debt payment/Interest*	—
12 Social obligations	500.00
13 Religious functions	300.00
14 Smoking/alcohol/chewing betel	—
15 Maintenance cost of household structures and equipments	—
16 Entertainment	—
17 Charges for society membership scheme and insurance policies	—
18 Other (specify) Expenses for other relatives	8,000.00
Total	16,250.00

* Monthly loan installment including the interest taken for purchasing asset

21. Information on Family Income (Monthly):

Source of Income	Amount in Rs.
1 Agriculture	
2 Livestock	
3 Wage	17,000 (Net)
4 Salary/Allowance/Pension	
5 Remittance (Foreign/Samurdhi/donations)	
6 Rent (land/buildings and other properties)	
7 Trade/Business	
8 Non Farm products (household products)	
9 Fishing	
10 Renting heavy vehicles (Bus/lorry/trucks/tractor)	
11 Renting light vehicles 1 (Van/car/land master)	
12 Renting light vehicles 2 (Boat/3 Wheeler)	
13 Interest (money lending/bank deposits)	
14 Trees/Gardening	
15 Other (specify)	
Total	17,000.00

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D. Information on Water Supply/usage:

22. Purpose of water use

Purpose	1. Source*	2. Distance **	3. Reliability***	4. No of hours spent****
1. Drinking	01	01	01	01
2. Cooking	01	01	01	01
3. Washing clothes	12	02	01	02
4. Bathing	12	02	01	02
5. Sanitation	01	01	01	01
6. Agriculture	13	03	01	03
7. Home garden	01	01	01	02
8. Other	01	01	01	02

*Source
 1. House connection 2. Garden tap 3. Stand post (common tap) 4. Protected common well 5. Unprotected common well
 6. Protected private well 7. Unprotected private well 8. Tube well 9. River 10. Steam/Spring
 11. Canal 12. Rain water 13. Village tank 14. Bottled water

**Distance
 1. >500m 2. 0.5-1km 3. <1km.

***Reliability
 1. Very Reliable 2. Reliable 3. Unreliable

****No of hours spent
 1. < 5 Minutes 2. 5 - 15 Minutes 3. 15 - 30 Minutes 4. 30 - 60 Minutes 5. > 1 Hour

E. Sanitation:

26. Do your family have a toilet for use? 1. Yes 2. No

23. Do you treat water?

1. Yes 2. No

24. If yes how do you treat water?

1. Mixing chlorine	
2. Filtering	
3. Boiling water	
4. Native techniques	
5. Other	

25. Who drinks boiled/cooled water?

1. All in family	<input checked="" type="checkbox"/>
2. Only children	
3. Only elderly members	
4. Only old members	
5. None in family	

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27. If yes, the type of toilet.

Type of toilet	
1. Pour flush water sealed	
2. Pit latrine	
3. Offset double pit latrine	
4. Temporary pit latrine	
5. Ventilated improved pit latrine	
6. Other	

28. If your family does not have a toilet where do the members go for defecation?

Site for defecation	
1. Use the neighbor's toilet	
2. Use a public latrine	
3. Go to the tank side	
4. Go to the nearby shrubby area	

F. Women Status (Obtain questions 30-35 with the housewife and other female members of the household)

29. Do you think that the women in this area have sufficient opportunities to participate in decision making at the household and community level?

* Use numerical codes: 1. Yes 2. No

30. If yes, in what manner women can contribute?

Manner	(tick appropriate boxes)
1. Household	
2. CBO	
3. Individual	
4. Small Groups	

31. If there is no opportunity what are the possible reasons?

Reasons	(tick appropriate boxes)
1. Male domination	
2. No proper representation in the CBOs	
3. No capability	
4. No opportunity	
5. No freedom	
6. Other (Specify).....	

32. How do you assess the women's freedom to engage/participate in the following?

Change	1. Yes 2. No
1. Time allocation to family matters	
2. Independent purchasing power	
3. Budget allocation on family needs	
4. Decision making on family matters	
5. Decision making on agricultural activities	

6. Decision making on financial matters	
7. participation and take responsibilities in various social events and organizations	
8. Other 1 (Specify).....	
9. Other 2 (Specify).....	

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27. If yes, the type of toilet.

Type of toilet	
1. Pour flush water sealed	
2. Pit latrine	
3. Offset double pit latrine	
4. Temporary pit latrine	
5. Ventilated improved pit latrine	
6. Other	

28. If your family does not have a toilet where do the members go for defecation?

Site for defecation	
1. Use the neighbor's toilet	
2. Use a public latrine	
3. Go to the tank side	
4. Go to the nearby shrubby area	

F. Women Status (Discuss questions 29-33 with the housewife and other female members of the household)

29. Do you think that the women in this area have sufficient opportunities to participate in decision making at the household and community level?

* Use numerical code: 1. Yes 2. No

30. If yes, in what manner women can contribute?

Manner	(tick appropriate boxes)
1. Household	
2. CBO	
3. Individual	
4. Small Groups	

31. If there is no opportunity what are the possible reasons?

Reasons	(tick appropriate boxes)
1. Male domination	
2. No proper representation in the CBOs	
3. No capability	
4. No opportunity	
5. No freedom	
6. Other (Specify).....	

32. How do you assess the women's freedom to engage/participate in the following?

Change	1. Yes	2. No
1. Time allocation in family matters		
2. Independent purchasing power		
3. Budget allocation on family needs		
4. Decision making on family matters		
5. Decision making on agricultural activities		

6. Decision making on financial matters	
7. participation and take responsibilities in various social events and organizations	
8. Other 1 (Specify)...	
9. Other 2 (Specify)...	

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36. Existing environmental problems in the area

Problems	1. Yes	2. No
1. Human elephant conflicts	2	
2. Snake bites	1	
3. Illicit felling of timber	2	
4. Dust related health problems	2	
5. Water scarcity	1	
6. Poor water quality	1	
7. Solid and liquid waste disposal	2	
8. Water borne Diseases	2	
9. Illicit liquor	2	
10. Other (specify)	2	

37. Existing cultural, historical and archeological resources in the area

Cultural, Historical Religious and Archeological Resources	1. Yes	2. No
1. Hindu Kovil		
2. Temple	2	
3. Church		
4. Ancient Monuments		
5. Ancient Ruins		
6. Other (specify)		

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H. Resettlement:

38. Potential impacts due to land acquisition for the proposed reservoir? (Multiple responses are allowed in priority order)

Answer <input checked="" type="checkbox"/>	Description of Impact
	1. Loss of commercial land (owner with title deed or registration certificate)
	2. Loss of commercial structure (current owner of structure regardless if land is owned or not)
	3. Loss of commercial land and structure (owner with title deed or registration certificate)
	4. Loss of residential land (owner with title deed or registration certificate)
<input checked="" type="checkbox"/>	5. Loss of Residential structure (current owner of structure regardless if land is owned or not)
	6. Loss of rental accommodation (tenant, user with lease)
	7. Loss of livelihood/income
	8. Loss of agricultural land (owner with title deed or registration certificate)
	9. Loss of agricultural land (non-title user or squatter on private or state land)
	10. Relocation of AP and his/her household
	11. Partial or complete loss of other property or secondary structure (i.e. fence, driveway, outdoor latrine, gate, shed, animal pen, etc.)
	12. Loss of tomb or graves (owner)
	13. Loss of crops, plants or trees (person who cultivates crops and/or own trees regardless if the land is owned or not)
	14. Loss of culture and tradition

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I. Preferences for Compensation, Resettlement and Rehabilitation:

Use Numerical Codes below to Q 40 to Q 43

1. Yes 2. No 3. Don't know 4. No Comments

39. Would you contribute your land for dam construction?

40. Do you agree to your land/property being acquired according to the Land Acquisition Act?

41. Are you aware of Government's policy on house/land acquisition by offering compensation to affected families?

42. If the project could offer you cash compensation only for the land you have lost, is it acceptable to you?

43. What is your opinion about resettlement and rehabilitation option? Circle the number

In case of Structure Loss		In case of Agricultural land /highland Loss	
<input checked="" type="radio"/> 1	Constructed structure	1	Land for land
<input type="radio"/> 2	Land for structure	2	Cash compensation
<input type="radio"/> 3	Cash compensation	3	Assistance for allied activities
<input type="radio"/> 4	Employment	4	Employment
<input type="radio"/> 5	Others (specify)	5	Others (specify)

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J. Project Disclosure:

44. Are you aware about the project? 1. Yes 2. No

45. Awareness made by

1. GramaNiladuri	✓
2. Divisional secretary	✓
3. Community organization	
4. NWSDB officials/consultants	✓
5. Other	

Name and signature of the respondent: O. A. Anura Siri [Signature] Date: 2012/08/01

Enumerator's Name and signature: Date:

Name and signature of the Supervisor: Date:

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2012.10.19.

නිවැසි 20 වන සහස්කාරී (පොලොව) ජාතික ජල සේවාවේ නියෝජිතයා වශයෙන්, අනුරාධපුරය.

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මහනගරුව, හා ස 01, අලුත් සේනාපති පාරේ පිහිටි පුරාණ කලාපීය ජල සේවාවේ නියෝජිතයා වශයෙන්, අනුරාධපුරය. මෙහිදී නිවැසි 20 වන සහස්කාරී මගින් ජල සේවාවේ නියෝජිතයා වශයෙන්, අනුරාධපුරය. මෙහිදී නිවැසි 20 වන සහස්කාරී මගින් ජල සේවාවේ නියෝජිතයා වශයෙන්, අනුරාධපුරය. මෙහිදී නිවැසි 20 වන සහස්කාරී මගින් ජල සේවාවේ නියෝජිතයා වශයෙන්, අනුරාධපුරය.

මෙම ජාතික ජල සේවාවේ නියෝජිතයා වශයෙන්, අනුරාධපුරය. මෙහිදී නිවැසි 20 වන සහස්කාරී මගින් ජල සේවාවේ නියෝජිතයා වශයෙන්, අනුරාධපුරය. මෙහිදී නිවැසි 20 වන සහස්කාරී මගින් ජල සේවාවේ නියෝජිතයා වශයෙන්, අනුරාධපුරය. මෙහිදී නිවැසි 20 වන සහස්කාරී මගින් ජල සේවාවේ නියෝජිතයා වශයෙන්, අනුරාධපුරය.

මෙය, නිවැසි.

Handwritten signature and name
A no / 2012
H. G. G. G.

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