

**BEFORE THE NATIONAL GREEN TRIBUNAL
SOUTHERN BENCH, CHENNAI**

Original Application No. 410 of 2013 (SZ)

P.V.Subramanian
S/o. P.Vellachamy,
Arasamarathupatti,
Neelamalaikottai Post,
Dindigul & 5 others.

... Applicants

Vs

The State of Tamil Nadu
Represented by its Director
Environment and Forest Department,
Fort St. George, Chennai and 7 others

... Respondents

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**Filed by
Thiru. C. Kasirajan,
Advocate, Chennai**

**Report of the Committee submitted to the Hon'ble NGT in the order
Dated 23.12.2020 in original application No.410 of 2013 (SZ)**

REPORT PREPARED BY

Er.R.Vijayabaskaran

Dr.B.Jeyaraman

Dr.R.Chandrasekaran

Dr.R.BabuRajendran

Dr.P.Thangavel

Er.G.Gobi



APRIL 2021

As per the Hon'ble NGT direction in OA No 517/2018, committee consisting of following members scrutinized and approved the report



Dr. R. Babu Rajendran,
Professor
Department of Environmental
Biotechnology,
School of Environment Science,
Bharathidasan University, Trichy



Dr. P. Thangavel,
Professor of Environmental Sciences
Department of Environmental
Sciences,
TNAU, Coimbatore



Er. G. Gobi,
Executive Engineer, PWD/WRD.,
Nangangiyar Basin Division
Palani.



Dr. R. Chandrasekaran
DEE, TNPC Board
Dindigul



Dr. B. Jeyaraman
Member
Appellate Authority,
Chennai



Er. R. Vijayabaskaran
ACEE, TNPC Board,
Chennai.

The Hon'ble NGT vide order dated: 23.12.2020 in O.A.No 410 of 2013 has directed as follows:

“ It is seen from the report that they want some more time to comply with the directions of this Tribunal to conduct soil as well as the water analysis, after postmonsoon period as well and issued the direction that if any damage to ground water and soil remedial measures for the restoration of the damage caused to the environment in this matter.”

Based on that, the committee collected the petitioner's well water samples after the post monsoon period and premonsoon period and compared results are submitted.

RAIN FALL DATA:

Another important factor contributing for the quality of the ground water is rainfall data. The pattern of the rainfall for the year 2001 to 2020 is furnished below for the Dindigul District for various seasons

RAINFALL DATA FOR THE YEAR 2001 TO 2020

Source: Department of Economics and Statistics.

TIME SERIES DATA OF RAIN FALL BY SEASONS (LAST YEARS) 2001 - 2020													
		South West Monsoon		North East Monsoon		Winter Season		Hot Weather Season		Total		% Deviation (+ or - or =) From Normal	
		Normal (mm)	Actual (mm)	Normal (mm)	Actual (mm)	Normal (mm)	Actual (mm)	Normal (mm)	Actual (mm)	Normal (mm)	Actual (mm)		
1	2001-02	270.8	197.8	432.4	305.7	50.8	52.7	174.2	71.99	928.2	628.1	-32	
2	2002-03	270.8	147.4	432.4	428.4	50.8	6.98	174.2	207.1	928.2	789.8	-15	
3	2003-04	251.4	297.3	399.2	396.6	33	---	148	238.9	831.6	932.8	12.2	
4	2004-05	251.4	373.3	399.2	430.5	33	34.3	148	286.1	831.6	1124.2	35.2	
5	2005-06	251.4	247.5	399.2	741.2	33	18.4	148	191.3	831.6	1198.4	44.1	
6	2006-07	251.4	2251.1	399.2	425	33	9.5	148	91.5	831.6	751.1	-9.7	
7	2007-08	251.4	233.4	399.2	590.2	33	38.5	148	298.5	831.6	1160.6	39.6	
8	2008-09	251.4	349.8	399.2	439.7	33	6.9	148	114.9	831.6	911.3	9.6	
9	2009-10	251.4	209.9	399.2	468.6	33	4.2	148	137.3	831.6	820.2	-1.4	
10	2010-11	251.4	286	399.2	768.4	33	37.4	148	170.7	831.6	1262.5	51.8	
11	2011-12	295.4	180	436.4	617.1	30.9	0.3	168	140.4	930.7	940.5	-1.1	
12	2012-13	295.4	175.9	436.4	317	30.9	33.9	168	102.7	930.7	629.5	-32.4	
13	2013-14	295.4	174.8	436.4	219.7	30.9	7.3	168	240.3	930.7	642.1	-28.8	

14	2014-15	295.4	301.2	436.4	445.6	30.9	32.7	168	359.8	930.7	1139.3	22.4
15	2015-16	295.4	240.1	436.4	486	30.9	0.9	168	108	930.7	835	-10
16	2016-17	295.4	139.77	436.4	238.47	30.9	44.36	168	186.58	930.7	609.18	-34.55
17	2017-18	158.4	496.5	357.9	374.7	35.4	17.1	168.3	238.1	720	1126.4	56.4
18	2018-19	295.4	267	436.4	301.8	30.9	5.7	168	61.4	930.7	635.9	-31.7
19	2019-20	308.4	250.4	470.2	395.3	28.7	1.8	170.8	87.5	978.1	735	-24.9

Observation:

The average rain fall in Dindigul District is 812 mm annually but, the previous year the rainfall data is 635.9mm. This rainfall is lower (-31.7% Deviation from normal) by comparing to the annual average rainfall. For the present year the rain fall is 735mm (-24.9% Deviation from normal)which is higher than the last year.

A STATEMENT SHOWING THE REPORT OF ANALYSIS (ROA) OF WELL WATER SAMPLES COLLECTED FROM SIX WELLS DURING THE YEAR 2019, 2020 AND 2021 IS TABULATED BELOW.:

Comparative Statement of ROA of Well water samples (2019-2020 -2021)

Sl. No	Name of the land Owner	Bore well of Thiru. G. Kandasamy			Open well of Thiru. P.V. Subramani			Open well of Thiru. N. Sakthivel			Open well of Thiru. N. Shivaji			Open well of Thiru. N. Selvaraj			Open well of Thiru. S. Selvaraj	
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15		
	Well survey number	105/5, 105/2, 99/2B, 99/1,3	35/2, 36, 42/1A, 130/4	117/3, 119/1B, 120/3	117/1A, 119/1C, 120/4	117/1B, 2,119/1A, 120/1,2, 128/2, 129/3A	107/4B1											
		2019 (Post monsoon)	2020 (Pre monsoon)	2021 (Post monsoon)	2019 (Post monsoon)	2020 (Pre monsoon)	2021 (Post monsoon)	2019 (Post monsoon)	2020 (Pre monsoon)	2021 (Post monsoon)	2019 (Post monsoon)	2020 (Pre monsoon)	2021 (Post monsoon)	2019 (Post monsoon)	2020 (Pre monsoon)	2021 (Post monsoon)	2021 (Post monsoon)	
1	pH	7.52	7.49	6.72	8.18	7.52	7.78	7.46	7.33	6.85	7.17	7.33	6.46	7.76	7.51	6.4	7.57	6.68
2	TDS (mg/lit)	6188	8392	5880	4220	5576	3850	9172	12972	2050	11128	12544	6710	11284	9996	5780	5476	4500
3	Chloride (mg/lit)	2524	3549	5084	1824	2149	3650	3999	5448	1686	4873	5323	5160	4973	4249	5315	2224	4103
4	Sulphate (as SO4) (mg/lit)	68	77	250	63	61	150	92	175	85	44	51	380	96	54	232	36	185

As per the Direction of the Honorable NGT well water samples of TDS in the petitioner's well for the year 2019-2021 is compared and comparison report is furnished below:

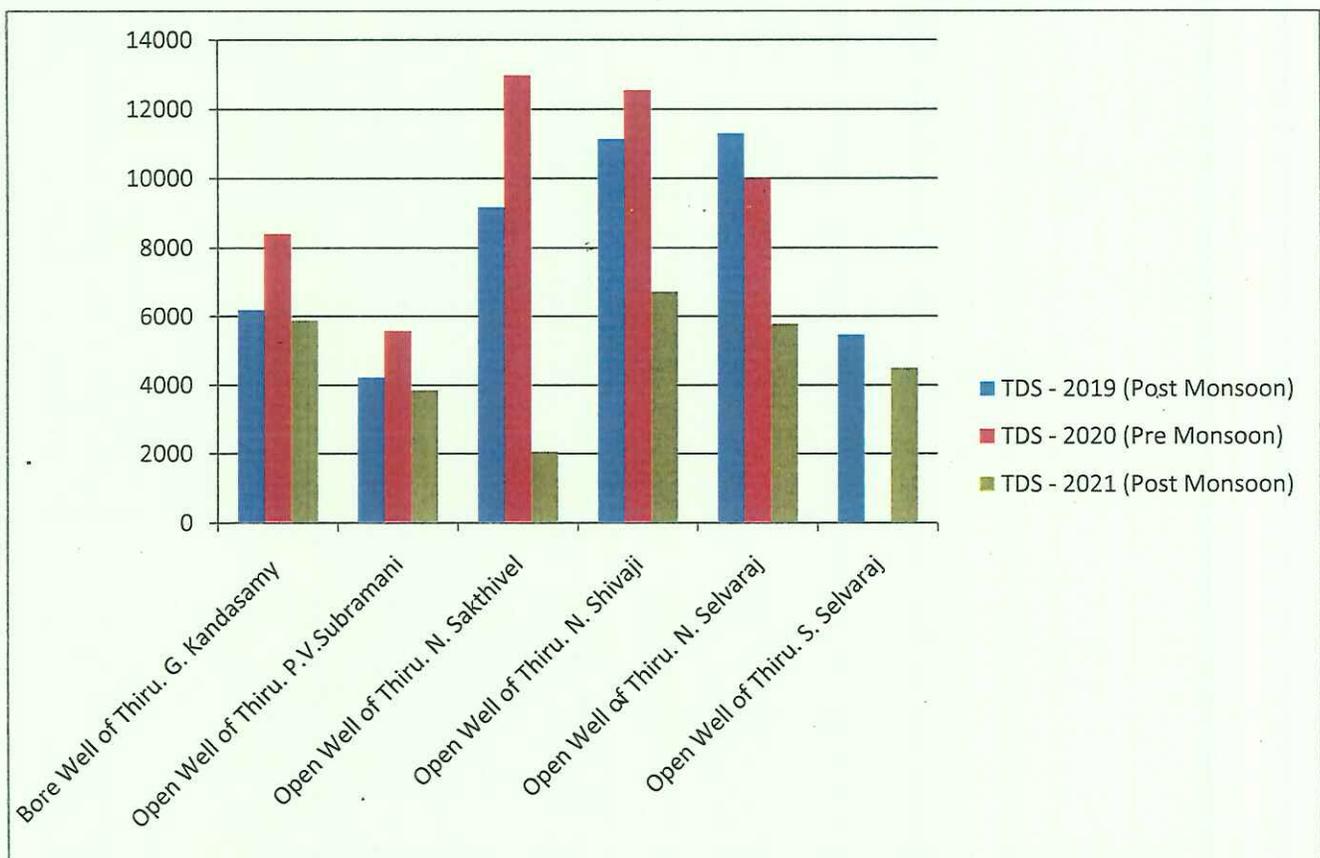
Sl. No	Name of the land Owner	Bore well of Thiru. G. Kandasamy			Open well of Thiru. P.V. Subramani			Open well of Thiru. N. Sakthivel			Open well of Thiru. N. Shivaji			Open well of Thiru. N. Selvaraj			Open well of Thiru. S. Selvaraj	
		2019 (Post monsoon)	2020 (Pre monsoon)	2021 (Post monsoon)	2019 (Post monsoon)	2020 (Pre monsoon)	2021 (Post monsoon)	2019 (Post monsoon)	2020 (Pre monsoon)	2021 (Post monsoon)	2019 (Post monsoon)	2020 (Pre monsoon)	2021 (Post monsoon)	2019 (Post monsoon)	2020 (Pre monsoon)	2021 (Post monsoon)	2019 (Post monsoon)	2021 (Post monsoon)
	1				2		3	4	5	6								
	Well survey number	105/5, 105/2, 99/2B, 99/1,3	35/2, 36, 42/1A, 130/4	117/3, 119/1B, 120/3	117/1A, 119/1C, 120/4	117/1B, 2,119/1A, 120/1,2, 128/2, 129/3A	107/4B1											
1	TDS (mg/lit)	6188	8392	5880	4220	5576	3850	9172	12972	2050	11128	12544	6710	11284	9996	5780	5476	4500

COMPARISON OF REPORT OF ANALYSIS WATER SAMPLES FOR THE YEAR 2019-2021

On perusal of water quality from the comparison report it is evident that, from 2019-2021 the pollutant level decreases from the year 2019-2021.

THE GRAPHICAL REPRESENTATION OF TDS LEVEL OF THE COMPLAINANTS WELL WATER FROM YEAR 2019-2021 IN PREMONSOON AND AFTER POST MONSOON PERIOD IS PRODUCED BELOW.

THE GRAPHICAL REPRESENTATION OF TDS LEVEL FROM YEAR 2019-2021 IN PRE MONSOON AND AFTER POST MONSOON PERIOD



TDS (mg/lit) – Year2019 - Blue color (after Post monsoon ranges -11284 ranges –4220)

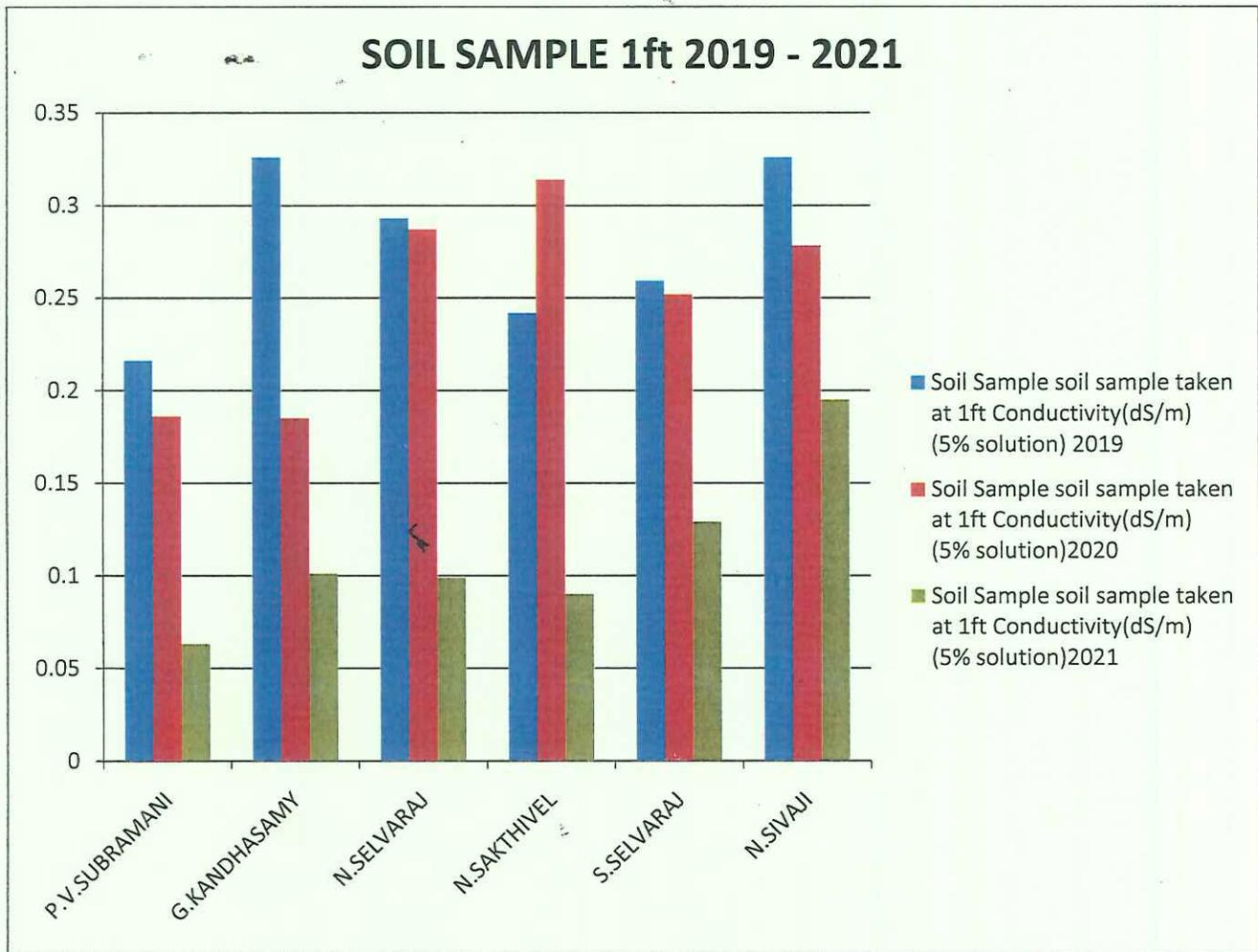
TDS (mg/lit) – Year 2020 - Brown color (Pre monsoon ranges – 12972 ranges - 5576)

TDS (mg/lit) – Year 2021 - Green color (after Post monsoon ranges -6710 ranges – 2050)

Observations

In the year of 2019 after post monsoon period the TDS ranges to ~~0234~~ 4220 mg/lit to 4220 mg/lit the same wells in the year of 2021 after post monsoon period is reduced 4220 mg/lit to 2050 mg/lit. From this it is observed that year wise, the TDS levels are decreasing from 2019-2021 due to natural recharge of ground water.

SOIL SAMPLES ANALYSIS REPORT OF PETIONER'S LAND FOR THE YEAR 2019-2021 IN PRE MONSOON AND AFTER POST MONSOON PERIOD



Soil sample 1stfeet – Year 2019 - Blue color

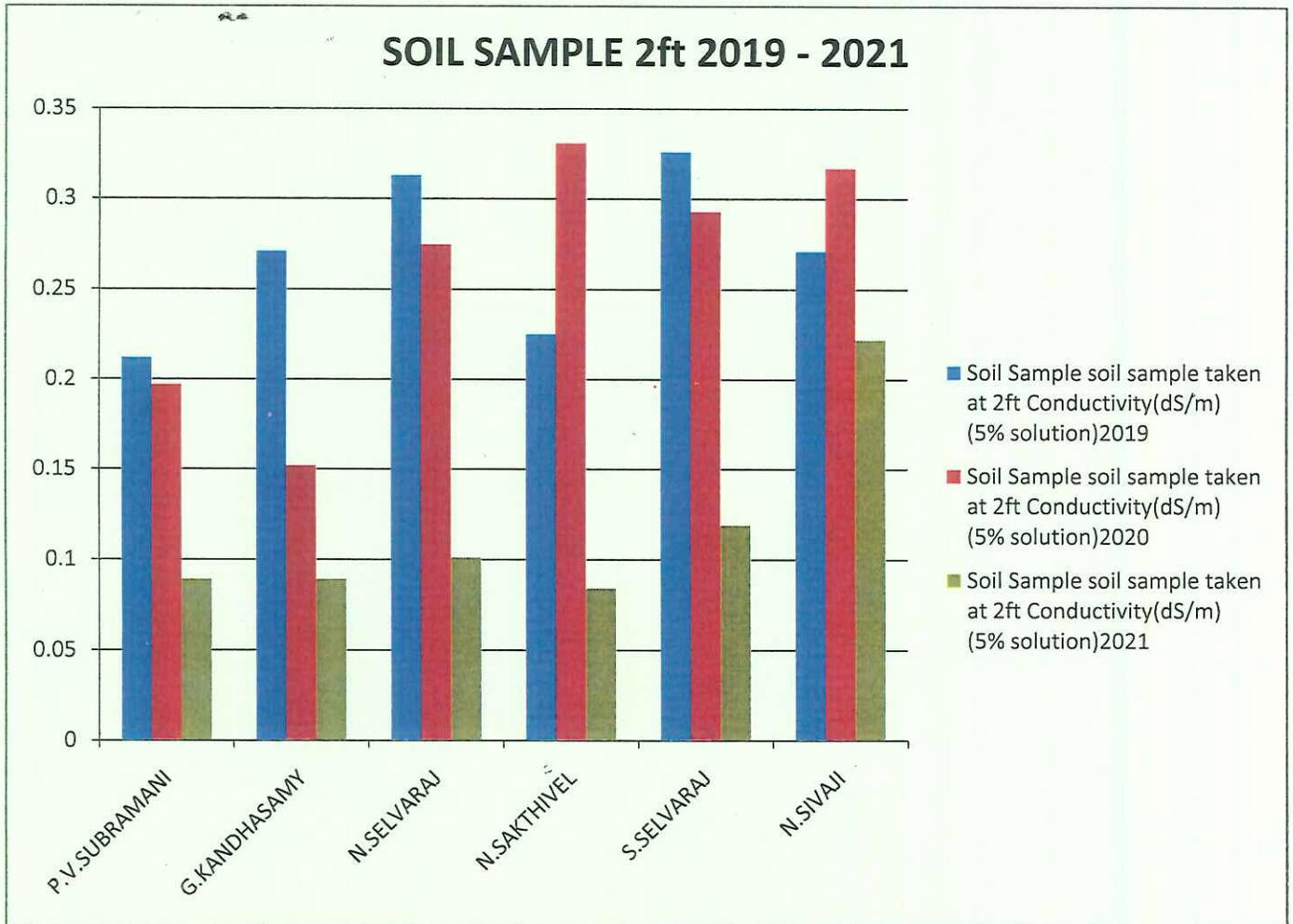
(EC (ds/m) ranges – 0.326 ranges – 0.216)

Soil sample 1st feet – Year 2020- Brōwn color

(EC (ds/m) ranges – 0.314 ranges – 0.185)

Soil sample 1st feet – Year2021 - Green color

(EC (ds/m) ranges – 0.195 ranges – 0.063)



Soil sample 2ndfeet – Year 2019 –Bluecolor

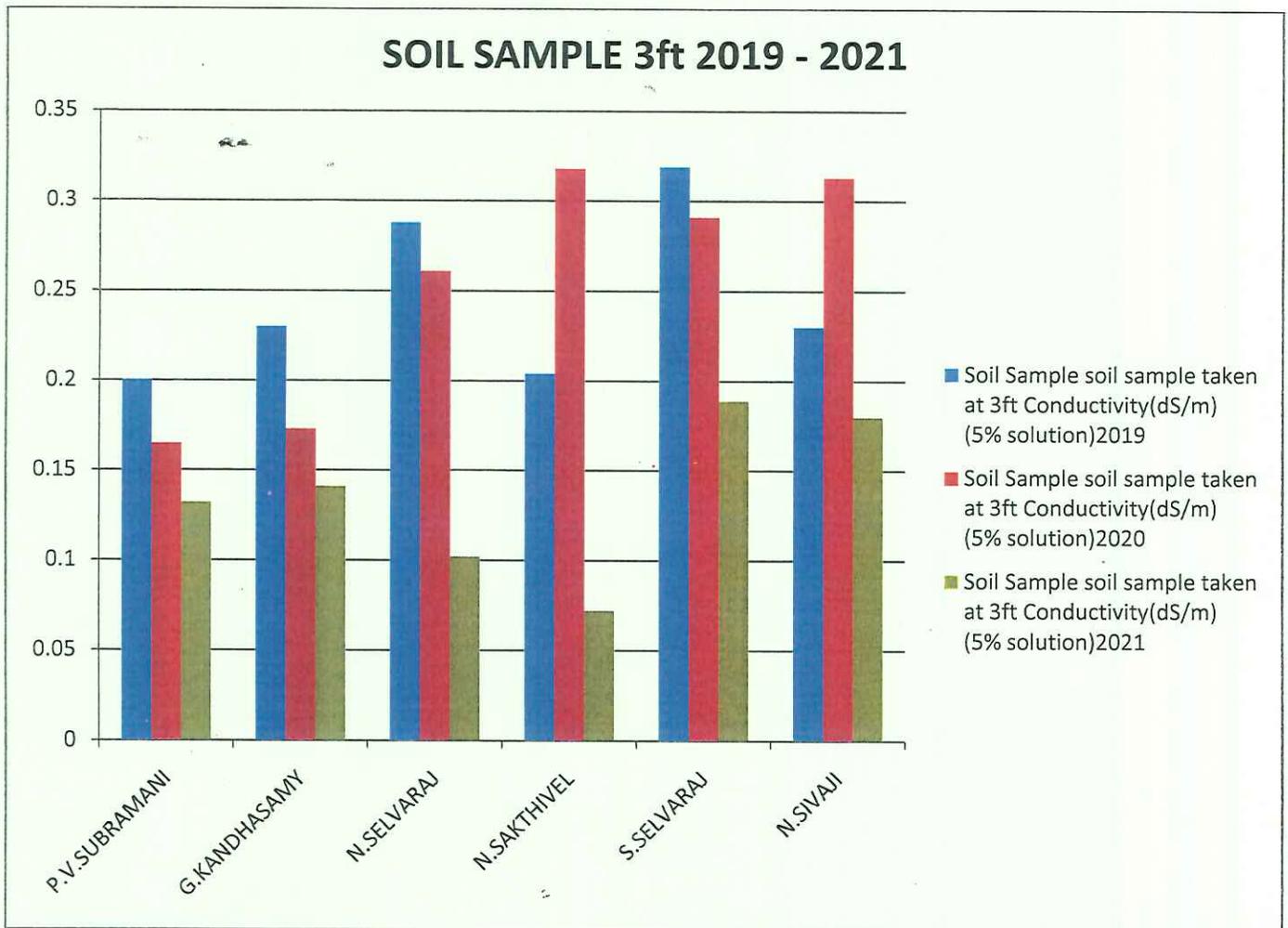
(EC (ds/m) ranges – 0.326 ranges – 0.225)

Soil sample 2nd feet — Year 2020- Brown color

(EC (ds/m) ranges – 0.331 ranges – 0.152)

Soil sample 2ndfeet – Year 2021 - Green color

(EC (ds/m) ranges – 0.222 ranges – 0.084)



Soil sample 3rdfeet — Year 2019 - Blue color

(EC (ds/m) ranges – 0.319 ranges – 0.2)

Soil sample 3rd feet -- Year2020- Brown color

(EC (ds/m) ranges – 0.318 ranges – 0.165)

Soil sample 3rd feet -- Year2021 - Green color

(EC (ds/m) ranges – 0.189 ranges – 0.072)

Observations:

In the year of 2019 in the depth of 1st feet soil sample taken from complainant shows (EC (ds/m) ranges – 0.326 ranges – 0.216)

The same land, in the year of 2021, at the depth of 1st feet soil sample taken from complainants area shows after post monsoon (EC (ds/m) ranges – 0.195 ranges – 0.063)

On comparison of above results the soil EC values are decreased and soil quality improves over time.

In the year of 2019 at the depth of 2nd feet soil sample taken from complainant shows (EC (ds/m) ranges – 0.326 ranges – 0.225)

The same land, in the year of 2021, at the depth of 2nd feet soil sample taken from complainant shows after post monsoon (EC (ds/m) ranges – 0.222 ranges – 0.084)

On comparison of above results the soil EC values are decreased and soil quality improves over time.

In the year of 2019 at the depth of 3rd feet soil samples taken from complainants area shows (EC (ds/m) ranges – 0.319 ranges – 0.200)

The same land, in the year of 2021, at the depth of 3rd feet soil sample taken from complainant shows after post monsoon (EC (ds/m) ranges – 0.189 ranges – 0.072)

On comparison of above results the soil EC values have decreased and soil quality improves over time.

CONCLUSION

The committee observed remanant salt generated are stored in polythene bags kept in the impervious platform premises of Mormilagai units and instructed through TNPC Board for safe disposal through common facility where it is purified and crystallized so that it can be reused in other industries. Till theremanants are disposed it should be safely stored inside the premises. The disposal of remanant salt through common facility shall be made mandatory for every industry

It is clearly understood from the above results that the well water and soil quality in the petitioner's land improves due to recharge of rain water into the ground water. The pollution levels are considerably decreasing after post monsoon. So there is no necessity of remediation of damage of ground water and soil. Because of natural remediation occurs due to the rain water recharge in the ground water after post monsoon period.

The result shows the discharge of leach out from remnant salt is completely stopped. Therefore the TDS level in well water in the petitioner's wells shows a decrease of TDS level in well water. The EC values for the soil samples also decreases.

The committee already suggested TNPCB and local body for strict monitoring of Mormilagai units for the disposal of remnant salts and also leach out arising from remnant salts to be monitored by putting piezometric wells in and around the Mormilagai units. Any violation if noticed from the above monitoring method the TNPCB along with local body shall take severe action on the erring industries to avoid further pollution in future.

End of report

HUMBLY SUBMITTED TO THE HONORABLE NATIONAL GREEN TRIBUNAL.

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TRIBUNAL SOUTHERN BENCH,
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**REPORT OF THE COMMITTEE
SUBMITTED TO THE HON'BLE NGT IN
THE ORDER DATED 23.12.2020 IN
O.A.NO.410 OF 2013.**

**Advocate for Respondent No. 3 & 4
Thiru.C. Kasirajan,
Advocate, Chennai.**

Date:23.04 .2021

Date of hearing:03.06.2021