**Data Article**

**Data on soil pH of Barddhaman district, India**

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**A R T I C L E  I N F O**

**Article history:**
Received 27 February 2017
Received in revised form 16 March 2017
Accepted 31 March 2017
Available online 8 April 2017

**Keywords:**
Soil pH
Acidic soil
Alkaline soil
Fertility
Productivity

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**A B S T R A C T**

pH (Puissance de Hydrogen) is an essential ingredient of soil that effects on fertility and productivity of dirt. Barddhaman district is a part of Lower Gangetic Plain fully covered by alluvial soil and popularly known as ‘rice bowl of West Bengal’ owing to its lofty production. This data article provides a block level data on soil pH that is essential for further investigation of the relationship among soil ph, plant growth, plant health and productivity. This data is valuable in the field of soil geography and soil science. Soil pH data is more relevant in the ground of plant biology, agricultural geography and agricultural science. It helps to explain the acidic and alkaline nature of alluvial soil. The data consist of 195 samples (n = 195) taken from the entire district. Samples have been collected from March, 2014 to March, 2015 and experimented in the laboratory. Theoretically pH value is limited within 0–14. Experiment result exemplifies the highest value 8.5 found in Khandaghosh block whereas lowest value is 4.5 and the samples which result in lowest value are gathered from 4 different blocks like Manteswar, Burdwan - II, Barabani and Salanpur.

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| Specifications Table |
|----------------------|
| **Subject area**     | **Geography**                      |
| More specific subject area | Soil Geography (pedology and edaphology), agricultural geography and soil science. |
| Type of data         | Table, figure and excel data        |
| How data was acquired | Through field work and laboratory experiment using soil pH measurement kit. |
| Data format          | Raw                                 |
| Experimental factors | Soil samples were collected from the depth of 25 cm throughout the complete year basically in three different periods – pre-monsoon, monsoon and post-monsoon. |
| Experimental features| Collected samples are rough in nature. They are processed individually through drying, pasting and separating. Dust and fine particles have extracted for laboratory experiment. Experiment is made manually using soil pH testing kit. |
| Data source location | 195 coordinates recorded by GPS (Geographical Positioning System) of Barddhaman district, West Bengal, India. |
| Data accessibility   | Data is available with this article. |

### Value of the data

- The data provides a vivid picture about acidic and alkaline nature of alluvial dominated soil.
- It helps to explain the impact of soil pH on the plant growth, soil fertility and productivity.
- Data can be utilized for quantitative analysis in the field of soil science and agricultural science.
- Other researchers may use the data for their research work and further analysis.

### 1. Data

Barddhaman district is broadly divided into two parts – north western part is known as industrial belt and eastern part is recognized as agricultural belt. The data presented here describes the soil pH level of 39 different administrative units of the entire district. Data is given both in table and figure form and an excel data is also added in Supplementary material of the data article. The data is prepared on the basis of field work and laboratory experiment.

### 2. Experimental design, materials and methods

#### 2.1. Sampling design, site selection and methods of sample collection

Barddhaman district is covered by 39 administrative units divided into 31 blocks, 6 municipalities and 2 municipal corporations. 5 samples are taken from each administrative area and the total number of sample n = 195 (39 x 5 = 195). Sampling is designed on three different periods over the year – (a) Pre-monsoon period (March to mid June), (b) monsoon period (mid June to September) and (c) post-monsoon period (October to February) to observe the seasonal variation of pH level. Two samples are taken in the pre-monsoon period, one sample in monsoon period and another two samples in post-monsoon period from each unit. A good sample is very much important for beneficial result. Samples are randomly collected giving emphasis on agricultural land and forest area. To ignore the exposed layer samples are gathered in depth of 25 cm from the soil surface which conserve the natural properties of it [1].
Clean plastic containers are used to preserve the collected soil. Location coordinates of the sampling sites are acquired by the handheld GPS and projected on the georeferenced map made by the ArcGIS 9.3 version software (the permission for using the software is granted by the authority of The University of Burdwan) (Fig. 1). Collected raw materials are dried up for 7 days on the air temperature. Fine and dusty particles are prepared for laboratory experiment through pasting and filtering process respectively.

![Sample collection points taken by handheld GPS.](image1)

![A. Soil pH measuring kit; B. Chart 1 – pH level 6.0 to 10.0; C. Chart 2 – pH level 4.0–5.5.](image2)
Table 1
195 sampling data and average pH level of 39 administrative units.

| Sl. No | Name of the Block/Municipality/ Municipal Corporation | No. of Sample | Coordinate of the Sample Collection Point | pH Value | Average pH Value (Nearest Round Figure of 0.5 Interval) |
|--------|---------------------------------------------------------|--------------|-------------------------------------------|----------|---------------------------------------------------|
| 1      | Kalna - I Block                                         | 1            | 23°13'34'' N, 88°14'58'' E               | 6.5      |                                                   |
|        |                                                         | 2            | 23°11'11'' N, 88°15'53'' E               | 6.0      |                                                   |
|        |                                                         | 3            | 23°15'42'' N, 88°16'18'' E               | 6.0      | 6.0                                               |
|        |                                                         | 4            | 23°12'58'' N, 88°19'03'' E               | 5.5      |                                                   |
|        |                                                         | 5            | 23°16'59'' N, 88°17'29'' E               | 6.0      |                                                   |
| 2      | Kalna - II Block                                        | 6            | 23°07'05'' N, 88°17'29'' E               | 6.5      |                                                   |
|        |                                                         | 7            | 23°09'13'' N, 88°14'53'' E               | 6.5      |                                                   |
|        |                                                         | 8            | 23°06'01'' N, 88°15'19'' E               | 5.5      | 6.0                                               |
|        |                                                         | 9            | 23°07'50'' N, 88°21'20'' E               | 6.0      |                                                   |
|        |                                                         | 10           | 23°04'49'' N, 88°20'04'' E               | 5.0      |                                                   |
| 3      | Purbasthali - I Block                                   | 11           | 23°23'00'' N, 88°18'39'' E               | 6.5      |                                                   |
|        |                                                         | 12           | 23°21'42'' N, 88°16'35'' E               | 7.5      |                                                   |
|        |                                                         | 13           | 23°18'51'' N, 88°18'04'' E               | 6.5      | 7.0                                               |
|        |                                                         | 14           | 23°18'18'' N, 88°13'53'' E               | 7.0      |                                                   |
|        |                                                         | 15           | 23°19'25'' N, 88°14'09'' E               | 7.0      |                                                   |
| 4      | Purbasthali - II Block                                  | 16           | 23°25'15'' N, 88°17'20'' E               | 8.0      |                                                   |
|        |                                                         | 17           | 23°26'42'' N, 88°13'54'' E               | 7.0      |                                                   |
|        |                                                         | 18           | 23°30'11'' N, 88°14'40'' E               | 7.5      | 7.5                                               |
|        |                                                         | 19           | 23°29'38'' N, 88°17'49'' E               | 7.0      |                                                   |
|        |                                                         | 20           | 23°28'01'' N, 88°17'03'' E               | 8.0      |                                                   |
| 5      | Katwa - I Block                                         | 21           | 23°35'45'' N, 88°04'32'' E               | 7.5      |                                                   |
|        |                                                         | 22           | 23°34'12'' N, 88°08'11'' E               | 7.5      |                                                   |
|        |                                                         | 23           | 23°33'28'' N, 88°03'31'' E               | 6.5      | 7.0                                               |
|        |                                                         | 24           | 23°27'30'' N, 88°03'40'' E               | 7.0      |                                                   |
|        |                                                         | 25           | 23°31'35'' N, 88°06'09'' E               | 7.0      |                                                   |
| 6      | Katwa - II Block                                        | 26           | 23°33'55'' N, 88°12'23'' E               | 5.5      |                                                   |
|        |                                                         | 27           | 23°28'16'' N, 88°06'15'' E               | 5.5      |                                                   |
|        |                                                         | 28           | 23°32'51'' N, 88°15'00'' E               | 5.5      | 5.5                                               |
|        |                                                         | 29           | 23°27'58'' N, 88°11'41'' E               | 5.5      |                                                   |
|        |                                                         | 30           | 23°31'11'' N, 88°09'43'' E               | 6.0      |                                                   |
| 7      | Ketugram - I Block                                      | 31           | 23°47'38'' N, 87°58'19'' E               | 7.5      |                                                   |
|        |                                                         | 32           | 23°39'26'' N, 87°58'36'' E               | 7.5      |                                                   |
|        |                                                         | 33           | 23°44'14'' N, 88°00'15'' E               | 6.5      | 7.0                                               |
|        |                                                         | 34           | 23°38'14'' N, 87°57'37'' E               | 7.0      |                                                   |
|        |                                                         | 35           | 23°41'34'' N, 87°54'51'' E               | 6.0      |                                                   |
| 8      | Ketugram - II Block                                     | 36           | 23°41'34'' N, 88°01'39'' E               | 6.5      |                                                   |
|        |                                                         | 37           | 23°41'51'' N, 88°07'37'' E               | 6.5      |                                                   |
|        |                                                         | 38           | 23°37'52'' N, 88°01'50'' E               | 6.5      | 7.0                                               |
|        |                                                         | 39           | 23°40'04'' N, 88°04'55'' E               | 8.0      |                                                   |
|        |                                                         | 40           | 23°40'03'' N, 88°04'52'' E               | 7.0      |                                                   |
| 9      | Mongolkote Block                                       | 41           | 23°31'57'' N, 87°56'44'' E               | 7.0      |                                                   |
|        |                                                         | 42           | 23°28'58'' N, 87°51'32'' E               | 6.5      |                                                   |
|        |                                                         | 43           | 23°29'13'' N, 88°00'44'' E               | 6.5      | 6.5                                               |
|        |                                                         | 44           | 23°30'30'' N, 87°46'40'' E               | 6.5      |                                                   |
|        |                                                         | 45           | 23°29'11'' N, 87°55'28'' E               | 6.5      |                                                   |
| 10     | Galsi - I Block                                         | 46           | 23°19'55'' N, 87°39'20'' E               | 6.0      |                                                   |
|        |                                                         | 47           | 23°21'48'' N, 87°32'20'' E               | 5.5      |                                                   |
|        |                                                         | 48           | 23°16'54'' N, 87°36'53'' E               | 6.0      |                                                   |
|        |                                                         | 49           | 23°21'05'' N, 87°30'14'' E               | 6.0      |                                                   |
|        |                                                         | 50           | 23°19'34'' N, 87°35'14'' E               | 6.5      |                                                   |
| 11     | Galsi - II Block                                        | 51           | 23°18'20'' N, 87°43'12'' E               | 7.0      |                                                   |
|        |                                                         | 52           | 23°13'06'' N, 87°40'17'' E               | 7.0      |                                                   |
|        |                                                         | 53           | 23°16'07'' N, 87°46'33'' E               | 7.0      |                                                   |
| Sl. No | Name of the Block/Municipality/ Municipal Corporation | No. of Sample | Coordinate of the Sample Collection Point | pH Value | Average pH Value (Nearest Round Figure of 0.5 Interval) |
|-------|--------------------------------------------------------|---------------|-------------------------------------------|----------|---------------------------------------------------|
|       |                                                        |               |                                           |          |                                                   |
| 12    | Khandaghosh Block                                      |               | 23°13'29"N, 87°44'28"E                   | 7.0      |                                                   |
|       |                                                        |               | 23°15'58"N, 87°42'08"E                   | 7.5      |                                                   |
| 13    | Raina - I Block                                        |               | 23°08'57"N, 87°41'34"E                   | 8.5      |                                                   |
| 14    | Raina - II Block                                       |               | 23°04'40"N, 87°46'55"E                   | 8.0      |                                                   |
| 15    | Jamalpur Block                                         |               | 23°08'23"N, 87°48'26"E                   | 7.0      | 7.5                                               |
| 16    | Memary - I Block                                       |               | 23°59'41"N, 87°46'19"E                   | 7.0      |                                                   |
| 17    | Memary - II Block                                      |               | 23°07'33"N, 87°44'11"E                   | 7.5      |                                                   |
| 18    | Manteswar Block                                        |               | 23°06'30"N, 87°52'49"E                   | 6.0      |                                                   |
| 19    | Bhatar Block                                           |               | 23°02'55"N, 87°50'25"E                   | 7.0      |                                                   |
| 20    | Burdwan - I Block                                      |               | 23°03'31"N, 87°56'24"E                   | 6.0      |                                                   |
| 21    | Burdwan - II Block                                     |               | 23°08'23"N, 87°48'26"E                   | 7.0      |                                                   |
| Sl. No | Name of the Block/Municipality/ Municipal Corporation | No. of Sample | Coordinate of the Sample Collection Point | pH Value | Average pH Value (Nearest Round Figure of 0.5 Interval) |
|--------|---------------------------------------------------|--------------|------------------------------------------|-----------|------------------------------------------------------|
| 22     | Ausgram - I Block                                 | 106          | 23°31'21"N, 87°42'42"E                  | 6.5       |                                                      |
|        |                                                   | 107          | 23°25'23"N, 87°42'18"E                  | 6.0       |                                                      |
|        |                                                   | 108          | 23°29'20"N, 87°38'04"E                  | 6.0       |                                                      |
|        |                                                   | 109          | 23°22'08"N, 87°43'29"E                  | 7.0       |                                                      |
|        |                                                   | 110          | 23°27'07"N, 87°40'28"E                  | 7.0       |                                                      |
| 23     | Ausgram - II Block                                | 111          | 23°33'26"N, 87°38'42"E                  | 6.0       |                                                      |
|        |                                                   | 112          | 23°26'29"N, 87°32'30"E                  | 7.5       |                                                      |
|        |                                                   | 113          | 23°31'32"N, 87°34'49"E                  | 7.0       | 6.5                                                  |
|        |                                                   | 114          | 23°25'08"N, 87°36'39"E                  | 6.0       |                                                      |
|        |                                                   | 115          | 23°30'22"N, 87°31'10"E                  | 6.5       |                                                      |
| 24     | Kanksa Block                                      | 116          | 23°33'30"N, 87°23'18"E                  | 6.5       |                                                      |
|        |                                                   | 117          | 23°27'57"N, 87°22'44"E                  | 6.5       |                                                      |
|        |                                                   | 118          | 23°32'35"N, 87°27'24"E                  | 7.0       | 6.5                                                  |
|        |                                                   | 119          | 23°25'59"N, 87°26'26"E                  | 7.0       |                                                      |
|        |                                                   | 120          | 23°30'20"N, 87°25'58"E                  | 6.5       |                                                      |
| 25     | Durgapur–Faridpur Block                           | 121          | 23°40'53"N, 87°19'56"E                  | 6.0       |                                                      |
|        |                                                   | 122          | 23°37'26"N, 87°18'00"E                  | 6.5       |                                                      |
|        |                                                   | 123          | 23°38'08"N, 87°21'35"E                  | 7.0       | 6.5                                                  |
|        |                                                   | 124          | 23°35'18"N, 87°15'27"E                  | 6.5       |                                                      |
|        |                                                   | 125          | 23°35'25"N, 87°21'07"E                  | 6.0       |                                                      |
| 26     | Andal Block                                       | 126          | 23°37'01"N, 87°13'54"E                  | 7.0       |                                                      |
|        |                                                   | 127          | 23°35'53"N, 87°13'24"E                  | 6.5       |                                                      |
|        |                                                   | 128          | 23°36'00"N, 87°12'09"E                  | 6.0       | 6.0                                                  |
|        |                                                   | 129          | 23°33'37"N, 87°12'27"E                  | 6.0       |                                                      |
|        |                                                   | 130          | 23°34'45"N, 87°09'43"E                  | 5.5       |                                                      |
| 27     | Pandabeswar Block                                 | 131          | 23°42'37"N, 87°13'56"E                  | 6.5       |                                                      |
|        |                                                   | 132          | 23°40'28"N, 87°16'47"E                  | 6.5       |                                                      |
|        |                                                   | 133          | 23°38'31"N, 87°13'01"E                  | 6.0       | 6.0                                                  |
|        |                                                   | 134          | 23°40'24"N, 87°16'26"E                  | 6.0       |                                                      |
|        |                                                   | 135          | 23°40'03"N, 87°12'44"E                  | 6.0       |                                                      |
| 28     | Jamuria Block                                     | 136          | 23°46'30"N, 87°04'14"E                  | 5.0       |                                                      |
|        |                                                   | 137          | 23°41'25"N, 87°09'07"E                  | 5.0       |                                                      |
|        |                                                   | 138          | 23°43'19"N, 87°07'54"E                  | 5.5       | 5.5                                                  |
|        |                                                   | 139          | 23°38'29"N, 87°09'28"E                  | 6.0       |                                                      |
|        |                                                   | 140          | 23°41'50"N, 87°11'15"E                  | 5.5       |                                                      |
| 29     | Raniganj Block                                    | 141          | 23°37'27"N, 87°02'21"E                  | 6.0       |                                                      |
|        |                                                   | 142          | 23°34'26"N, 87°07'54"E                  | 6.0       |                                                      |
|        |                                                   | 143          | 23°37'14"N, 87°03'47"E                  | 5.0       | 5.5                                                  |
|        |                                                   | 144          | 23°35'06"N, 87°06'32"E                  | 5.5       |                                                      |
|        |                                                   | 145          | 23°36'31"N, 87°04'49"E                  | 5.5       |                                                      |
| 30     | Barabani Block                                    | 146          | 23°48'20"N, 86°58'15"E                  | 4.5       |                                                      |
|        |                                                   | 147          | 23°43'45"N, 87°00'54"E                  | 5.5       |                                                      |
|        |                                                   | 148          | 23°47'19"N, 87°01'37"E                  | 5.5       | 5.5                                                  |
|        |                                                   | 149          | 23°43'52"N, 86°58'18"E                  | 6.0       |                                                      |
|        |                                                   | 150          | 23°46'29"N, 86°59'25"E                  | 5.5       |                                                      |
| 31     | Salanpur Block                                    | 151          | 23°50'05"N, 86°53'36"E                  | 4.5       |                                                      |
|        |                                                   | 152          | 23°45'24"N, 86°54'51"E                  | 4.5       |                                                      |
|        |                                                   | 153          | 23°48'31"N, 86°54'33"E                  | 5.5       | 5.0                                                  |
|        |                                                   | 154          | 23°43'59"N, 86°53'44"E                  | 5.0       |                                                      |
|        |                                                   | 155          | 23°46'53"N, 86°51'37"E                  | 5.0       |                                                      |
| 32     | Durgapur Municipality Corporation                 | 156          | 23°33'26"N, 87°20'11"E                  | 6.0       |                                                      |
|        |                                                   | 157          | 23°31'31"N, 87°15'36"E                  | 6.0       |                                                      |
|        |                                                   | 158          | 23°32'08"N, 87°20'46"E                  | 5.5       | 6.0                                                  |
|        |                                                   | 159          | 23°29'02"N, 87°18'52"E                  | 5.5       |                                                      |
2.2. Laboratory experiment

Experiment procedure of $\text{PH}$ test using $\text{PH}$ testing kit (Fig. 2A) is [2] -

a. Take a clean test tube and pour distilled water up to 5 ml. mark.
b. Put 2 g of soil to the test tube.
c. Add 0.5 g of barium sulphate.
d. Allow the test tube to stand for 20 min with occasional shaking.
e. Add 5 drops of indicator no. 1 from container no. 1 to the above, close the mouth of the tube with a clean rubber stopper and shake the contents thoroughly. Allow the soil to settle down completely.
f. Compare the colour of the upper liquid in the test tube with the colour chart no. 1 (Fig. 2B) and find out the nearest match which will indicate its $\text{PH}$. 

Table 1 (continued)

| Sl. No | Name of the Block/Municipality/ Municipal Corporation | No. of Sample | Coordinate of the Sample Collection Point | $\text{PH}$ Value | Average $\text{PH}$ Value (Nearest Round Figure of 0.5 Interval) |
|--------|--------------------------------------------------------|---------------|-------------------------------------------|-------------------|--------------------------------------------------|
| 33     | Asansol Municipality Corporation                       | 160           | $23^{\circ}29'01''N, 87^{\circ}19'35''E$ | 6.0               |                                                  |
|        |                                                        | 161           | $23^{\circ}42'06''N, 87^{\circ}03'38''E$ | 5.0               |                                                  |
|        |                                                        | 162           | $23^{\circ}41'58''N, 86^{\circ}53'32''E$ | 5.0               |                                                  |
|        |                                                        | 163           | $23^{\circ}39'14''N, 87^{\circ}00'14''E$ | 5.5               | 5.5                                              |
|        |                                                        | 164           | $23^{\circ}42'58''N, 86^{\circ}49'49''E$ | 5.5               |                                                  |
|        |                                                        | 165           | $23^{\circ}38'51''N, 86^{\circ}55'38''E$ | 6.0               |                                                  |
| 34     | Kalna Municipality                                      | 166           | $23^{\circ}10'32''N, 88^{\circ}21'01''E$ | 6.5               |                                                  |
|        |                                                        | 167           | $23^{\circ}09'32''N, 88^{\circ}21'36''E$ | 6.5               |                                                  |
|        |                                                        | 168           | $23^{\circ}09'55''N, 88^{\circ}21'41''E$ | 6.0               | 6.0                                              |
|        |                                                        | 169           | $23^{\circ}09'46''N, 88^{\circ}21'05''E$ | 6.0               |                                                  |
|        |                                                        | 170           | $23^{\circ}09'35''N, 88^{\circ}22'01''E$ | 6.0               |                                                  |
| 35     | Katwa Municipality                                      | 171           | $23^{\circ}45'46''N, 87^{\circ}41'32''E$ | 7.0               |                                                  |
|        |                                                        | 172           | $23^{\circ}45'46''N, 87^{\circ}41'32''E$ | 7.0               |                                                  |
|        |                                                        | 173           | $23^{\circ}45'46''N, 87^{\circ}41'32''E$ | 6.0               | 6.5                                              |
|        |                                                        | 174           | $23^{\circ}45'46''N, 87^{\circ}41'32''E$ | 6.5               |                                                  |
|        |                                                        | 175           | $23^{\circ}45'46''N, 87^{\circ}41'32''E$ | 6.0               |                                                  |
| 36     | Dainhat Municipality                                    | 176           | $23^{\circ}45'46''N, 87^{\circ}41'32''E$ | 7.0               |                                                  |
|        |                                                        | 177           | $23^{\circ}45'46''N, 87^{\circ}41'32''E$ | 5.5               |                                                  |
|        |                                                        | 178           | $23^{\circ}45'46''N, 87^{\circ}41'32''E$ | 6.0               | 6.0                                              |
|        |                                                        | 179           | $23^{\circ}45'46''N, 87^{\circ}41'32''E$ | 6.0               |                                                  |
|        |                                                        | 180           | $23^{\circ}45'46''N, 87^{\circ}41'32''E$ | 6.5               |                                                  |
| 37     | Barddhaman Municipality                                 | 181           | $23^{\circ}45'46''N, 87^{\circ}41'32''E$ | 5.5               |                                                  |
|        |                                                        | 182           | $23^{\circ}45'46''N, 87^{\circ}41'32''E$ | 6.5               |                                                  |
|        |                                                        | 183           | $23^{\circ}45'46''N, 87^{\circ}41'32''E$ | 7.0               | 6.5                                              |
|        |                                                        | 184           | $23^{\circ}45'46''N, 87^{\circ}41'32''E$ | 6.5               |                                                  |
|        |                                                        | 185           | $23^{\circ}45'46''N, 87^{\circ}41'32''E$ | 6.5               |                                                  |
| 38     | Memari Municipality                                     | 186           | $23^{\circ}45'46''N, 87^{\circ}41'32''E$ | 6.0               |                                                  |
|        |                                                        | 187           | $23^{\circ}45'46''N, 87^{\circ}41'32''E$ | 6.0               |                                                  |
|        |                                                        | 188           | $23^{\circ}45'46''N, 87^{\circ}41'32''E$ | 6.5               | 6.0                                              |
|        |                                                        | 189           | $23^{\circ}45'46''N, 87^{\circ}41'32''E$ | 6.5               |                                                  |
|        |                                                        | 190           | $23^{\circ}45'46''N, 87^{\circ}41'32''E$ | 6.0               |                                                  |
| 39     | Guskara Municipality                                    | 191           | $23^{\circ}45'46''N, 87^{\circ}41'32''E$ | 7.0               |                                                  |
|        |                                                        | 192           | $23^{\circ}45'46''N, 87^{\circ}41'32''E$ | 7.0               |                                                  |
|        |                                                        | 193           | $23^{\circ}45'46''N, 87^{\circ}41'32''E$ | 6.0               | 6.5                                              |
|        |                                                        | 194           | $23^{\circ}45'46''N, 87^{\circ}41'32''E$ | 6.5               |                                                  |
|        |                                                        | 195           | $23^{\circ}45'46''N, 87^{\circ}41'32''E$ | 6.5               |                                                  |
g. If the colour of the upper liquid in the test tube indicates pH near 6 then repeat the whole experiment using indicator no. 2 instead of indicator no. 1 and match the colour of the upper liquid with the chart no. 2 (Fig. 2C).

2.3. Data registration

Experiment results are entered in sheet 1 of an excel file individually. Result of 5 samples for each administrative unit is converted into an average value. Average value is rounded in the nearest round figure of 0.5 intervals. Table and figure form of data are presented in the article (Table 1 and Fig. 3) and excel data is also available with it (Supplementary file).

Soil pH is a crucial soil indicator and is defined as the negative log of the hydrogen ion activity [3]. The determination of soil pH in soil is important as it plays a great role in availability of nutrients to plants [4]. Different pH range indicates different types of acidic and alkaline soil [5] (Table 2).

### Acknowledgements

Author wish to thank Dr. Bhupendra Nath Dutta Smriti Mahavidyalaya, Burdwan for giving permission to use the laboratory. Thanks are also given to the students of geography department of that...
college for their valuable and reliable assistance in sample collection. I acknowledge my gratitude to Poulami Ganguly for correction and improvement of the language. The author would like to thank two anonymous reviewers for their comments on the manuscript.

**Transparency document. Supporting information**

Transparency data associated with this article can be found in the online version at http://dx.doi.org/10.1016/j.dib.2017.03.046.

**Appendix A. Supplementary material**

Supplementary data associated with this article can be found in the online version at http://dx.doi.org/10.1016/j.dib.2017.03.046.

**References**

[1] E. Njuguna, M. Gathara, S. Nadir, S. Mwalusepo, D. Williamson, P.E. Mathé, J. Kimani, T. Landmann, G. Juma, G. Ong’amo, E. Gatebe, B. Le Ru, P. Calatayud, Characteristics of soils in selected maize growing sites along altitudinal gradients in East African highlands, Data Brief 5 (2015) 138–144. http://dx.doi.org/10.1016/j.dib.2015.08.030.

[2] Soil pH testing manual provided with the pH measuring kit.

[3] G. Estefan, R. Sommer, J. Ryan, Plant and Water Analysis: A Manual for the West Asia and North Africa region, 3rd edition, International Center for Agricultural Research in the Dry Area (ICARDA) (2013) 65–66.

[4] Laboratory Testing Procedure for Soil & Water Sample Analysis. Water Resources Department, Directorate of Irrigation Research & Development, Government of Maharashtra, Pune, 2009 31–33.

[5] R. Burt, Soil Survey Staff. Soil Survey Field and Laboratory Methods Manual - Soil Survey Investigations Report (ed.). U.S. Department of Agriculture, Natural Resources Conservation Service. 2014 51: 227-234.