

## Supplementary Material (SM)

## Distribution of Exchangeable Magnesium in Lowland Rice-Cultivated Soils of Sri Lanka as Affected by the Differences in Climate, Soil, and Water Source

Indeera Hetti Arachchige<sup>1</sup>, Buddhi Marambe<sup>1</sup>, Mohomad Nijamudeen<sup>2</sup>, Harsha Kadupitiya<sup>3</sup>, Dinaratne Sirisena<sup>4</sup>, Rohana Chandrajith<sup>5</sup>, Lalith Suriyagoda<sup>1,\*</sup>

<sup>1</sup> Department of Crop Science, Faculty of Agriculture, University of Peradeniya, Peradeniya, Sri Lanka

<sup>2</sup> Sustainable Agriculture Research and Development Centre, Makandura, Department of Agriculture, Sri Lanka

<sup>3</sup> Natural Resources Management Centre, Department of Agriculture, Peradeniya, Sri Lanka

<sup>4</sup> Rice Research and Development Institute, Department of Agriculture, Batalagoda, Sri Lanka

<sup>5</sup> Department of Geology, Faculty of Science, University of Peradeniya, Peradeniya, Sri Lanka

\* Corresponding author: lalith.suriyagoda@agri.pdn.ac.lk

**SM 1** The number of soil samples collected from each climatic zone (CZ), agro-climatic zone (ACZ), and soil order to test exchangeable magnesium (Mg) concentration in paddy soils

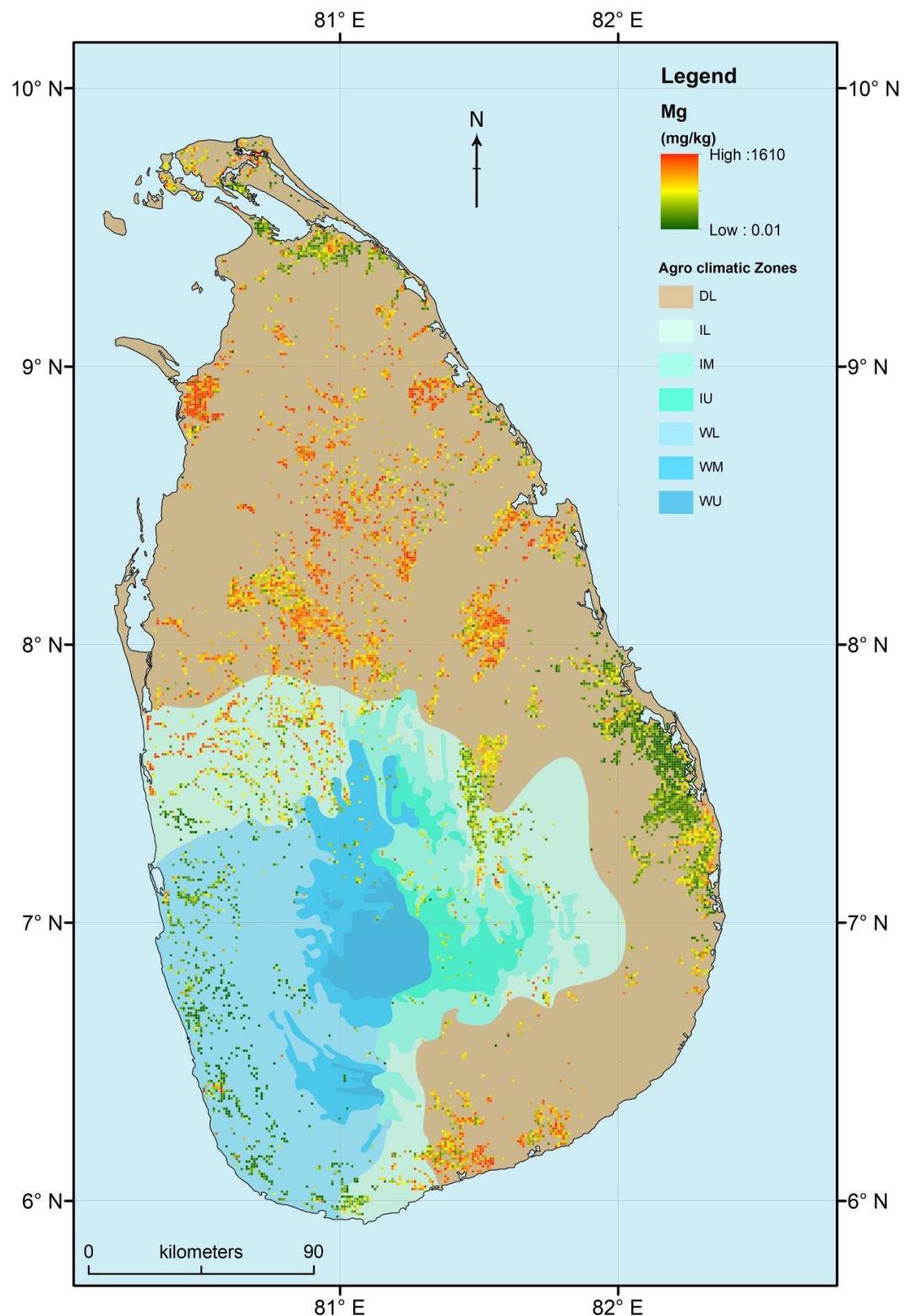
| CZ          | Dry zone |                            | Intermediate zone                   |                                     | Wet zone                           |                            | Total |
|-------------|----------|----------------------------|-------------------------------------|-------------------------------------|------------------------------------|----------------------------|-------|
|             | ACZ      | Dry zone<br>low<br>country | Intermediate<br>zone low<br>country | Intermediate<br>zone mid<br>country | Intermediate<br>zone up<br>country | Wet zone<br>low<br>country |       |
| Soil orders |          |                            |                                     |                                     |                                    |                            |       |
| Alfisols    | 2,875    | 302                        | 10                                  | 2                                   | 3                                  | -                          | 3,192 |
| Entisols    | 1,554    | 151                        | 19                                  | 5                                   | 218                                | 36                         | 1,983 |
| Histosols   | -        | 22                         | -                                   | -                                   | 24                                 | -                          | 46    |
| Inceptisols | 450      | 12                         | 10                                  | -                                   | -                                  | -                          | 472   |
| Ultisols    | 40       | 407                        | 25                                  | 3                                   | 305                                | 6                          | 786   |
| Vertisols   | 187      | -                          | -                                   | -                                   | -                                  | -                          | 187   |
| Total       | 5,106    | 894                        | 64                                  | 10                                  | 550                                | 42                         | 6,666 |
|             | 5,106    |                            | 968                                 |                                     |                                    | 592                        |       |

**Note:** Soil order of some samples was not known, therefore the sample size stated in this table is less than the total number of samples collected, i.e. <9,038.

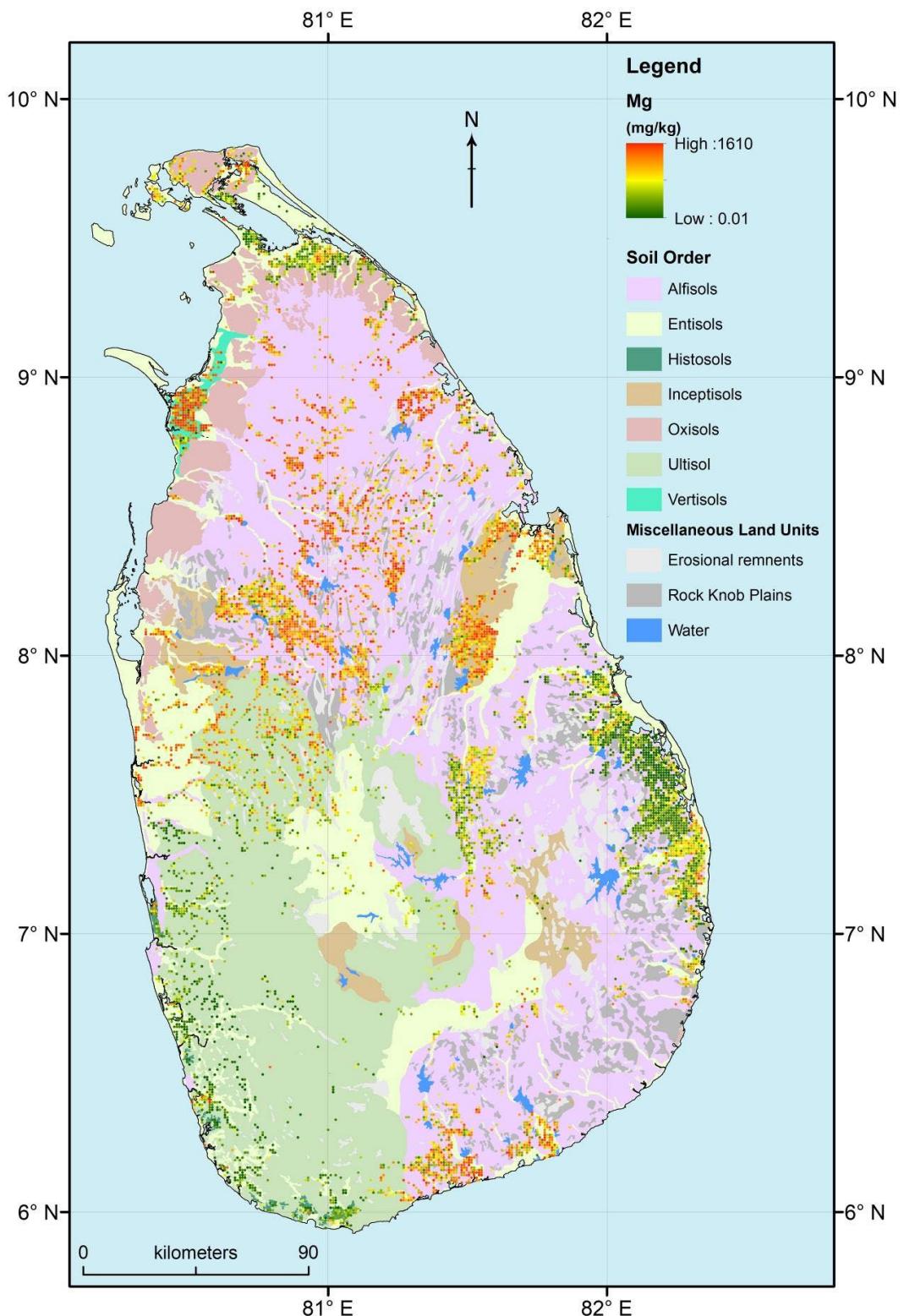
**SM 2** The number of soil samples collected from each climatic zone (CZ), agro-climatic zone (ACZ), and water source to test exchangeable magnesium (Mg) concentration in paddy soil

| CZ             | Dry zone |                            | Intermediate zone                   |                                     | ACZ | Wet zone                   |                                     | Total |
|----------------|----------|----------------------------|-------------------------------------|-------------------------------------|-----|----------------------------|-------------------------------------|-------|
|                | ACZ      | Dry zone<br>low<br>country | Intermediate<br>zone low<br>country | Intermediate<br>zone mid<br>country |     | Dry zone<br>low<br>country | Intermediate<br>zone low<br>country |       |
| Soil<br>orders |          |                            |                                     |                                     |     |                            |                                     |       |
| Major          | 2,572    | 432                        | 6                                   | -                                   | 55  | -                          | -                                   | 3,065 |
| Minor          | 1,365    | 310                        | 22                                  | -                                   | 98  | -                          | -                                   | 1,795 |
| Rainfed        | 1,400    | 225                        | 51                                  | 10                                  | 439 | 43                         | 2,168                               |       |
| Total          | 5,337    | 967                        | 79                                  | 10                                  | 592 | 43                         | 7,028                               |       |
|                | 5,337    |                            | 1056                                |                                     |     | 635                        |                                     |       |

**Note:** Water source of some samples was not known, therefore the sample size stated in this table is less than the total number of samples collected, i.e. <9,038.



**SM 3** Spatial distribution of exchangeable Mg concentration in the paddy fields used to cultivate rice in different agro-climatic zones of Sri Lanka.



**SM 4** Spatial distribution of exchangeable Mg concentration in the paddy fields used to cultivate rice under different soil orders of Sri Lanka.