**Appendix D: Land-use scenarios**

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In order to test the feasibility of three general archaeological hypothesis regarding first-millennium land use in the Rhine-Meuse delta, the presented PLUS calculates 20 land-use scenarios in six scenario groups:

Table D.1 | *Overview of simulated scenarios applied in the study*.

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| --- | --- | --- | --- | --- |
| Hypotheses | Scenario group | Chronological time frame | Land-use scenario number(s) | Description |
| Hypothesis 1 | **Scenario group 1** | First millennium  (ERP-EMPD) | 1-7 | Minimum number of settlements provided locally produced food to military sites and large settlements |
| **Scenario group 2** | First millennium  (ERP-EMPD) | 8-14 | Maximum number of settlements provided locally produced food to military sites and large settlements |
| Hypothesis 2 | **Scenario group 3** | ERP-MRP | 15-16 | Maximum number of settlements provided food for military sites and large settlements |
| **Scenario group 4** | ERP-MRP | 17-18 | Minimum number of settlements provided locally produced food to military sites and food supply of large settlements was 100% imported |
| Hypothesis 3 | **Scenario group 5** | EMPC | 19 | Maximum number of settlements provided 50% locally produced food to Dorestad and the remaining 50% required by Dorestad was imported |
| **Scenario group 6** | EMPC | 20 | Maximum number of settlements were self-sufficient in terms of locally produced food and 100% of the food required by Dorestad was imported. |

Minimum number of settlements = the present number of excavated settlements in the study area (see main text: Section 4.1.). Maximum number of settlements = the number of excavated settlements plus the number of probably undiscovered settlements (50%; see main text: Section 4.1).

Each individual simulation was linked to a suitability map based on one of three palaeogeographical reconstructions: AD 100, 500, or 900. Table D.2 shows an overview of each simulated scenario.

Table D.2 | *Periodic, palaeographical, and settlement-patterns pecification of each individual simulated scenario*.

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| --- | --- | --- | --- |
| Land–use scenario # | Period | Description | Palaeogeographical  reconstruction |
| 1 | ERP | Minimum number of settlements provided locally produced food to military sites and large settlements | **AD 100** |
| 2 | MRP | Minimum number of settlements provided locally produced food to military sites and large settlements | **AD 100** |
| 3 | LRP | Minimum number of settlements provided locally produced food to military sites and large settlements | **AD 500** |
| 4 | EMPA | Minimum number of settlements provided locally produced food to military sites and large settlements | **AD 500** |
| 5 | EMPB | Minimum number of settlements provided locally produced food to military sites and large settlements | **AD 500** |
| 6 | EMPC | Minimum number of settlements provided locally produced food to military sites and large settlements | **AD 900** |
| 7 | EMPD | Minimum number of settlements provided locally produced food to military sites and large settlements | **AD 900** |
| 8 | ERP | Maximum number of settlements provided locally produced food to military sites and large settlements | **AD 100** |
| 9 | MRP | Maximum number of settlements provided locally produced food to military sites and large settlements | **AD 100** |
| 10 | LRP | Maximum number of settlements provided locally produced food to military sites and large settlements | **AD 500** |
| 11 | EMPA | Maximum number of settlements provided locally produced food to military sites and large settlements | **AD 500** |
| 12 | EMPB | Maximum number of settlements provided locally produced food to military sites and large settlements | **AD 500** |
| 13 | EMPC | Maximum number of settlements provided locally produced food to military sites and large settlements | **AD 900** |
| 14 | EMPD | Maximum number of settlements provided locally produced food to military sites and large settlements | **AD 900** |
| 15 | ERP | Maximum number of settlements provided food for military sites and large settlements | **AD 100** |
| 16 | MRP | Maximum number of settlements provided food for military sites and large settlements | **AD 100** |
| 17 | ERP | Minimum number of settlements provided locally produced food to military sites and food supply of large settlements was 100% imported | **AD 100** |
| 18 | MRP | Minimum number of settlements provided locally produced food to military sites and food supply of large settlements was 100% imported | **AD 100** |
| 19 | EMPC | Maximum number of settlements were self-sufficient in terms of locally produced food and 100% of the food required by Dorestad was imported. | **AD 900** |
| 20 | EMPC | Maximum number of settlements were self-sufficient in terms of locally produced food and 100% of the food required by Dorestad was imported. | **AD 900** |