



# MINAGRIS

## Deliverable 1.1

### Crisis outbreak management strategy



This project has received funding from the European Union's Horizon 2020 research and innovation programme under Grant Agreement No. 101000407 (MINAGRIS). This output reflects only the author's view and the European Union cannot be held responsible for any use that may be made of the information contained therein.

Document Control Information

Settings	Value
<b>Deliverable Title</b>	<b>Crisis Outbreak management strategy</b>
<b>Work Package Title</b>	WP 1
<b>Deliverable number</b>	1.1
<b>Description</b>	Crisis outbreak strategy
<b>Lead Beneficiary</b>	Wageningen University
<b>Lead Authors</b>	WU
<b>Contributors</b>	
<b>Submitted by</b>	
<b>Doc. Version (Revision number)</b>	1
<b>Sensitivity (Security):</b>	Basic
<b>Date:</b>	28/02/2022

Document Approver(s) and Reviewer(s):

NOTE: All Approvers are required. Records of each approver must be maintained. All Reviewers in the list are considered required unless explicitly listed as Optional.

Name	Role	Action	Date

Document history:

The Document Author is authorized to make the following types of changes to the document without requiring that the document be re-approved:

- Editorial, formatting, and spelling
- Clarification

Configuration Management: Document Location

The latest version of this controlled document is stored in Minagris Coordination - General\WP1-1.1\0. Deliverables.

**Nature of the deliverable**

<b>R</b>	Report	X
<b>DEC</b>	Websites, patents, filing, etc.	
<b>DEM</b>	Demonstrator	
<b>O</b>	Other	

<b>Dissemination level</b>		
<b>PU</b>	Public	X
<b>CO</b>	Confidential, only for members of the consortium (including the Commission Services)	

## ACKNOWLEDGEMENT

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This report forms part of the deliverables from the MINAGRIS project which has received funding from the European Union's Horizon 2020 research and innovation programme under Grant Agreement No. 101000407.

MINAGRIS - Micro- and NAno-Plastics in AGRicultural Soils: sources, environmental fate and impacts on ecosystem services and overall sustainability– is an H2020 project funded under the H2020 Programme, coordinated by WAGENINGEN UNIVERSITY (WU).

The MINAGRIS project, launched on September 1<sup>st</sup>, 2021, aims to contribute to healthy soils in Europe by providing a deeper understanding and tools to assess the impact of MP and NP in agricultural soil health. To create an overview on the actual situation across Europe, MINAGRIS will assess the use of different plastic polymers in agricultural systems in 11 case study across Europe and identify the resulting types and concentrations of MPs and NPs. Concentrations of other stressors in soils such as pesticides and veterinary drugs will be additionally assessed. MINAGRIS will provide validated analytical tools that allow the quantification and identification of MPs and NPs in European agricultural soils.

The project, funded by the EU Research and Innovation Programme Horizon 2020 under Grant Agreement n. 101000407, gathers 20 partnering organisations from 12 EU Member States countries with various biogeographical regions and representative of different farming systems and soils across Europe. It has an overall budget of approximately €7 million and will run for 5 years, between September 2021 and September 2026.

More information on the project can be found at: <https://www.minagris.eu>

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## EXECUTIVE SUMMARY

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This report corresponds to Deliverable 1.1 – Crisis Outbreak management strategy of the MINAGRIS project, and cover the essential procedures for compliance of activities of this project with requirements related to the guidelines of Horizon 2020 projects. This includes the potential risks overseen that might occur while performing the project implementation as well as possible solutions or/and procedures for overcoming the potential crisis outbreak.

## INTRODUCTION

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The EC requires that in case of crisis outbreak a transboundary strategy is implemented.

Seven key activities are recognized in the effective transboundary strategy in case of crisis outbreak management according to \*Boin et al. 2016: detection, sense-making, decision-making, coordination, meaning-making, communication, and accountability. These key activities are described by Boin et al. (2016) as follows:

- Detection: Recognising emerging and actual risks and threats.
- Sense-making: Collecting, systematically analysing, and distributing critical information which helps to generate a shared situational picture.
- Decision making: Formulating an effective strategy to implement decisions.
- Coordination: Identifying key actors and partners and facilitating collaboration between them in relation to risk, threat, or crisis.
- Meaning making: Formulating a message of what has happened in relation to the crisis, providing advice, and explaining measures taken
- Communication: Effective broadcasting of a message regarding the risk, threat, or crisis to selected audiences such as the public, the media, victims, etc.
- Accountability: Explaining decisions, strategies, and actions initiated before, during, and after the crisis. This includes processes of feedback, stakeholder dialogue, and learning.

Those key activities will be implemented in the consortium mainly by the coordination team (WU, UTH, EQY, the first 5 key activities) and the work package leaders (WP2, WP8), in the following sections these activities are more explained.

As the participation of stakeholders is central to the MINAGRIS project, this report provides also information concerning the risks linked with different stakeholders in the project implementation. Therefore, the crisis outbreak management strategy will answer potential risks concerning the implementation of the project.

The EC is aware of the different cross-border crises, i.e. climate change, terrorism, international trade disputes, global health threats such as COVID-19 pandemic. Those 7 keys described above are used already in different crisis management clusters. Therefore clusters as PREPARE are implemented to develop and implement strategic solutions in cases of crisis. In MINAGRIS, we also will carry through contact with experienced crisis management clusters as PREPARE. In this deliverable, we show the visualized risks and the respective potential mitigations are described (see 3, Impact and remediation).

\* Boin, A., 't Hart, P., Stern, E., & Sundelius, B. (2016). *The politics of crisis management*. Cambridge: Cambridge University Press.

## 1. ACTIONS RAISING CRISIS OUTBREAK MANAGEMENT STRATEGY

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The Project management team (WU, UTH, EQY) will implement together with all partners the crisis outbreak management strategy. In this sense the following activities are identified and its relation to the respective work package is stated as follows,

- **WP2 – Online Harmonisation of monitoring and methodologies**
  - **Task 2.1: Construction of a High-level multi-actor (HLMAN) networks on plastics in agriculture**
  - **Task 2.2: Establishment and operation of Multi-Actor Platforms (MAPs) in CSS**
  - **Task 2.3: Monitoring plan for CSS**
  - **Task 2.4: Data management, data storage and evaluation**
- **WP3 - Online or delay in the assessment of the use of plastics across Europe and resulting MNP concentrations in soil**
  - **Task 3.2 Assessment of farmers needs and practices at the selected CSS**
  - **Task 3.3 Analytical challenges in the development of a method to monitor plastics in soils**
- **WP4-WP7. Three to six months delay in all activities (due to potential delay on sampling, and questionnaires development), but all of them will be realized.**
- **WP8 - Dissemination and exploitation**
  - **Task 8.1 Online development of a project website, visual identity and intranet portal for information**
  - **Task 8.2 Online Assessment of the Agricultural Knowledge and Innovation System (AKIS) for plastic use in agriculture**
  - **Task 8.4: Operationalising the Dissemination and Communication strategy**
- **WP9 - Ethics requirements, not delay is foreseen.**

These activities may involve collection of data, in case of crisis outbreak, most of the data will be collected online.



## 2. MEASURES TAKEN FOR THE CRISIS OUTBREAK STRATEGY

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The coordination team (WU, UTH, EQY) will implement together with all the consortium the management strategy in case of a global crisis, therefore the following steps are foreseen:

WP1 leaders: Identification of the key threats of the crisis outbreak

WP1 together with all WP leaders: Analysis of the impact of threats on the project implementation by WP

WP1 and WP2 leaders: Harmonization of an alternative data management plan

WP1 together with all WP leaders: Decision making in order to face the crisis outbreak

WP1 team: communication to the project partners of the decision and strategies to follow in order to face the crisis outbreak

WP8 leaders: communication of the decision and strategies to all the stakeholders involved in Minagris project

All WP leaders will adjust the activities program following the National, and Transboundary regulations.

A Gantt chart with the re-adjustment of all activities will be developed on the first 8 days of the crisis outbreak by the coordination team together with WP2 leader, and shared among the consortium through the SharePoint.

With appropriate technical and organizational measures, the organizations can re-program their activities.

### 2.1 Organizational measures

These measures can be considered as the approach an organization takes in assessing, developing and implementing controls that secure the implementation of the re-adjustments in case of crisis outbreak. Each partner will follow the procedures implemented in their organization without affecting the decision taken by the consortium. In case certain procedures are conflicting, the following steps will be followed: i) a dialogue will be established between the organization and the coordination team, ii) an agreement elaboration will be stated between the different parties, iii) and a the decision will be implemented.

### 3. IMPACT AND REMEDIATION

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In case of crisis outbreak different activities might result affected, delayed or eliminated. In this section those activities are mentioned.

#### 3.1. Crisis causing global lockdown (Environmental, Financial or Healthy threats)

Impact on activities and milestones

- WP3. Survey1 M3-M6, field work M4-M8, survey2 M13-M16, Laboratories access M9-M60, Stakeholders Workshops, Project yearly meetings
- WP4-WP8, deliverables D1.2-D8.5 and milestones MS6-MS15

Remediation strategies:

- WP1 coordination team will present an adjusted program for all the activities, following the respective organizational, national and transboundary regulations. In case the crisis duration is longer than expected, a project extension will be asked to the European Commission.
- WP2, WP3, Survey1 M3-M6 and survey2 M13-M16 will be done by phone and online meetings
- WP3, Field work will be delayed until the conditions allow the access to the field areas, or the activity is implemented following the respective local, regional, national and transboundary rules.
- WP4-WP6, Laboratory access M9-M60 will be delayed until the conditions allow the access, or the respective local, regional, national and transboundary regulations are applied (e.g., During COVID 19 pandemic, use of face mask and social distance). The expected delay is foreseen for 3-6 months. In case the crisis duration is longer than expected, a project extension will be asked to the European Commission.
- WP8, Stakeholders Workshops. In case of global lockdown, the workshops will be conducted online.
- WP1, Project yearly meetings. In case of global lockdown, the meetings must be online.
- WP4-WP8. Deliverables D1.2-D8.5 will be 3-6 months delayed.
- WP4-WP8. Milestones MS6-MS15 will be 3-6 months delayed.

#### 3.2. WP specific risks

Potential risks are also expected in case of crisis outbreak, or individual threats, then the following mitigations are programmed (taken and modified from Minagris Grant Agreement).

- All WPs (WU as coordinator)

1. Extraordinary crisis such as 2020 COVID-19

All partners have sufficient resources to survive to a new crisis. Lockdowns may result in delays in the execution of activities. A new Gantt and contingency plan would then be validated between all partners. Data collection will then be online when it is permitted (questionnaires, interviews). Early in the project a crisis outbreak plan will be prepared by WU.

➤ WP1.

2. Closing the activity of one company, or partner leaving the consortium (WU)

The consortium is highly qualified and partners from the MINAGRIS consortium will be identified that could act in place of the leaving partner being assigned the relevant tasks. Otherwise they would find within their large contact network the best partner for assuming the role lost.

3. Lack of financial resources (WU)

Solvency of project partners has been assessed, ensuring their financial resources during the project execution. Almost all partners have already participated in national or EU projects, having a wide experience and history, which reduces this risk.

4. Error in the estimation of the tasks' duration (WPL)

Steering of the project is frequent (i.e., monthly meetings gathering all WP leaders). The coordinators will remind the WP leaders in advance to ensure timely delivery of the deliverables and milestones. Should delays occur, WPL will encourage a review of the task procedure and PC will remind the WPL in advance to ensure timely delivery of the deliverables and milestones.

5. Delay of one partner providing reports or activities (WU)

Estimation of tasks' duration has been made with the agreement of all the partners, so that, as a first approach, the deliverables and development should be given on time. In case of delay of one task, that would suppose the delay of some others, an adjustment on the tasks' duration will be made, aiming at accomplishing the time targets established in the project, asking for additional effort to the partner responsible for the delay.

➤ WP2 (CDEUB).

6. Low involvement of stakeholders in the MAA

MAA being in the centre of the project, all partners (especially CSS leaders) will be trained to MAA processes and frequently reminded. Regular monitoring will enable to highlight any problem of implementation. Adaptation of the MAA processes at local (or global if relevant) scales will be proposed to ensure the involvement and engagement of the relevant stakeholders for all activities and during all steps of the project.

➤ WP3 (FiBL-CH)

7. Poor representativeness of data sampling

Data sampling (including microplastics monitoring) should be carried out in a relatively short time and at all study sites. Detailed guidelines will be provided and first contacts with CSS leaders will be pre-established and concerned WP leaders will establish a regular follow-up of progress made in the CSS to ensure the successful collection of data and samples and to allow new data collection in time if necessary. When the expected data is not complete within the agreed timeline, the task leader will make the best out of the available data.

#### 8. Poor implementation of the standardised methodology

Successful implementation of the methodology is subject to human observance. Regular meetings will take place, reminding all the procedures and exchanging on their implementation. When a deviation is observed, specific training session and/or collective workshop will take place to correct the mistakes.

#### ➤ WP4 (UTH)

##### 9. Multi-scale experimental planning might complicate research outcome.

Experimental planning at each scale is already defined in detail and agreed by partners (who is organizing the experiments, what is measured by whom based on its expertise). Prior to each experiment involved partners will finalize details through teleconference and inform task leaders and WPL involved. In case of difficulties, planning and processes will be reviewed.

##### 10. Extrapolation of MNP effects at the soil food web level is difficult to establish

High resolution microbial diversity data from different trophic levels in the soil food web will be produced at different experimental scales from groups with global leading experience in applying those tools in the specific trophic guilds. Involved partners have well-documented experience in terrestrial ecology and in the use of network analysis tools.

#### ➤ WP5 (GIUB)

##### 11. Difficulty in defining sensitive methods for the extraction and analysis of NP in plant tissues

A range of approaches will be tested by GIUB to come up with a reliable and validated method for the quantification of NP in plant tissues. Different plant parts and crops will be tested to provide a validated and sensitive method.

#### ➤ WP6 (UCSC)

##### 12. Limitations on shotgun plasmidome or metagenome of the plastisphere faces methodological and bioinformatic

UCSC, INRAE, UTH and FUB have top class experience in the extraction of DNA of high quality and large molecular weight from “difficult” samples and possess necessary infrastructures for bioinformatic analysis of such volumes of data. Different extraction protocols will be tested and the optimum will be utilized. Sequencing in Illumina and Minion platforms will enable optimum assembly of metagenomes.

##### 13. Low acceptance and uptake of project decision support output by related stakeholders (FiBL-AT)

Stakeholder will be involved early in the WP7 tasks for optimal adaptation and uptake of WP7 results by the relevant stakeholder groups. When they will not be convinced, partner will adapt the tools accordingly.

#### ➤ WP7(FiBLAT/DTU)

##### 14. Difficulty in obtaining high quality data and information from farms for ESS and sustainability

analysis

Partners are very experienced in quantitative and qualitative surveys. Common assessment frameworks and interview protocols and specific trainings of CSS partners enable smooth and consistent data acquisition.

➤ WP8 (UOG)

15. Weak communication and dissemination with the stakeholders

All partners are involved in the related WP8, which make this risk low. If still needed, dissemination and communication strategy will be restructured and re-evaluated during the project.

16. Lower number of participants to the organised events

The events will be organised so that a large audience can attend. However, if the number of participants is lower than expected, new events will be organised to compensate.