

## Supplementary material for “A Serious Game Approach to Analyze Socio-hydrological Dynamics in Agriculture”

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**Table SM1: Play-test sessions (Not recorded).**

Session	Date	Location	Academic Background	No. Participants
1	04.03.19	Germany	Agriculture	4
2	10.03.19	Germany	Agriculture	3
3	15.03.19	Germany	Boardgame Development	4

We play-tested MAHIZ with two main groups: farmers and boardgame developers before starting our recorded game sessions. These play-test sessions are not included in our analysis. These groups were consulted for the following reasons:

1. We consulted and tested the game with smallholder farmers from Germany to validate the dynamics represented by the game and the situations that lead to collaboration or free riding.
2. We consulted board game developers to validate the effectiveness of the mechanics and the design (board, pieces, and cards) to enhance the complexity of cooperation, communication, and building of trust while making an entertaining game.

The input of these play-testing sessions ensured the reproducibility of the game for the recorded game sessions by focusing on making the game understandable so that players with no background knowledge of the system were able to fully experienced the agrohydrological situation and learn from the learning experience.

**Table SM2: Summary of the recorded sessions.**

Session	Date	Location	Academic Background	No. Participants
1	10.04.19	Austria	Multidisciplinary	4
2	20.04.19	Germany	Agriculture	3
3	25.04.19	Germany	Multidisciplinary	2
4	03.05.19	Germany	Agriculture	4
5	13.06.19	Germany	Multidisciplinary	2
6	21.06.19	Germany	Hydrology	4
7	25.06.19	Germany	Hydrology	4
8	27.05.19	Germany	Hydrology	2
9	02.07.19	Germany	Multidisciplinary	2
10	04.07.19	Germany	Hydrology	3
11	09.07.19	Germany	Multidisciplinary	3
12	11.07.19	Germany	Multidisciplinary	3
13	12.07.19	Germany	Multidisciplinary	3
14	18.07.19	Germany	Hydrology	4
15	26.07.19	Czech Republic	Hydrobiology	3
16	27.07.19	Czech Republic	Multidisciplinary	3

17	30.07.19	Czech Republic	Multidisciplinary	2
18	06.08.19	Germany	Hydrology	2
19	08.08.19	Germany	Hydrobiology	4
20	09.08.19	Germany	Hydrobiology	4
21	22.08.19	Germany	Hydrology	3
22	05.09.19	Germany	Hydrology	2
23	17.09.19	France	Multidisciplinary	4
24	18.09.19	France	Multidisciplinary	4
25	25.09.19	France	Multidisciplinary	3
26	26.09.19	France	Multidisciplinary	3
27	10.10.19	Germany	Multidisciplinary	4
28	11.10.19	Germany	Multidisciplinary	3
29	27.10.19	Mexico	Multidisciplinary	4
30	28.10.19	Mexico	Multidisciplinary	3
31	29.10.19	Mexico	Agriculture	4
32	31.10.19	Mexico	Agriculture	4
33	21.11.19	Germany	Hydrology	3
34	08.12.19	USA	Multidisciplinary	4
35	10.12.19	USA	Multidisciplinary	4
<b>Total</b>				<b>113</b>