

Data and Python code for "Næss, Marius W., Guro L. H. Fisktjønmo, Bård-Jørgen Bårdsen, Morten Falkegård, and Martin Svenning. *Perceptions of Common Pool Resource Management in the Tana River, Norway: An Exploratory Analysis.*"

This file provides an overview of the variables and datasets used in the analyses.

Background

The data reported here is based on the results from 1) interviews, 2) vignettes, and 3) an allocation game with fishers in the Tana river, Norway.

The data was collected over two years, with the aim of collecting data from the vignettes in the winter of 2022/2023 and playing a follow-up game with the same participants in the spring of 2023. Participants were recruited from a list of active fishers provided by the Tana River Management (TF).

However, while most of the participants in 2022 agreed to a follow-up in 2023 (one declined), eight of the 2022 participants were unreachable in 2023. Thus, seventeen participants played both the game and the vignettes in 2023, while seventeen did the vignettes in 2022 and the game in 2023 (one of the participants asked to be removed from the game after playing and was subsequently kept out of the analyses of the game). Nine participants have had or were in a position of trust (only one woman) in TF, the holders of the net fishing rights Tana (LBF) or as members of the fishing zone boards. See Table 1 in main text for descriptive data.

Datasets

1. [data_hypotetical_rivers_norms_practice.xlsx](#)

1.1 Description

Dataset used for the analyses focusing on levels of redistribution: norms vs. practice. Participants were told they would receive information about two different rivers 'in a faraway country that you are never likely to visit'. They were told that in both rivers, fishers make a living by fishing in the river, every fisher has an equal right to fish, and each fisher gets one catch per year. The critical information about the rivers was varied to encompass a river system 'characterised by a healthy and sustainable fish population' and 'characterised by a decline in fish populations'. All participants were asked about both rivers, but the rivers were presented in random order.

For each river, participants were asked to judge the right redistribution level for that river. Instructions explained that the fishers living along the river have a common storage facility where each fisher had to place a certain proportion of their catch. This proportion is the same for everyone. The fish in the common storage facility is then shared. Participants were asked what 'proportion that should be placed in the common storage facility' and 'beliefs about actual contributions to the common storage facility'. Participants responded by moving a slider from 0% (nothing) to 100% (everything).

Number of rows (excluding header): 82.

1.2 Variables

- **river**: Categorical variable indicating whether the river is experiencing a healthy and sustainable stock of fish or whether the stock is declining.
- **ID**: Unique anonymous ID for each participant. All were asked about both scenarios, but the order was randomised.
- **1_should_give**: percentage of catch that *should* be placed in a communal storing facility (scale from 0-100).
- **2_will_give**: percentage of catch that they believe *will* be placed in a communal storing facility (scale from 0-100).

1.3 Datatypes

- Numeric
- Text
- Dataset also contains values **-1**: *Don't know* responses, **-2**: *What is needed* responses and **-3**: *Not relevant* responses.
- **Na**: missing values are indicated by empty cells.

1.4 Notebooks dataset used

- **1_Levels of redistribution_norms_and_practice.ipynb**

2. **personal_final_anon.xlsx**

2.1 Description

Dataset containing all anonymised background information used in all analyses.

Number of rows (excluding header): 42.

2.2 Variables

- **ID**: Unique anonymous ID for each participant.
- **municipality**: Municipality of participants.
- **interviewed**: If participant was interviewed (1) or not (0).
- **wanted_to_play_game**: Variable indicating whether the participant interviewed in 2022 wished to participate (1) in a follow-up interview in 2023 or not (0).
- **participated_in_game**: Variable indicating whether the participant participated in the game (1) or not (0).

2.3 Datatypes

- Numeric
- Text
- **Na**: missing values are indicated by empty cells.

3. `game_final.xlsx`

3.1 Description

Dataset containing data from the allocation game. Participants were given 15 kg salmon to either keep for themselves or distribute among other fishers, the specific proportion to keep versus give away being up to them to decide.

Number of rows (excluding header): 33.

3.2 Variables

- `ID`: Unique anonymous ID for each participant.
- `give_proportion`: Proportion of total kg (15 kg) fish participants gave to other fishers.
- `no_gifts_given`: number of people each person playing the game gave something away to.

3.3 Datatypes

- Numeric

3.4 Notebooks dataset used

- `1_Levels of redistribution_norms_and_practice.ipynb`

4. `data_hypotetical_rivers_expected_outcomes.xlsx`

4.1 Description

Dataset used for the analyses focusing on expected outcomes. For each river, participants were asked to rate the likelihood of nine different outcomes if a common storage facility was introduced for the first time (along a scale of 0, very unlikely to 100, very likely): 1) fishers try to extract more than their due, 2) fishers will try to minimise their contributions, 3) fishers will cooperate, 4) there will be conflicts, 5) fishers will follow the rules, 6) the people in charge of the common storage facility will favour their friends and family, 7) fishers will be motivated by what is the morally right thing to do, 8) fishers will try to influence the redistribution of fish to their own benefit and 9) fishers will think about themselves first and foremost.

Number of rows (excluding header): 82.

4.2 Variables

- `ID`: Unique anonymous ID for each participant.
- `river`: Categorical variable indicating whether the river is experiencing a healthy and sustainable stock of fish or whether the stock is declining.
- `3_statement_1`: Fishers will take more out than they have a right to.
- `3_statement_2`: Fishers will avoid contributing.
- `3_statement_3`: fishers will cooperate.
- `3_statement_4`: There will be conflicts.
- `3_statement_5`: Fishers will follow the rules.
- `3_statement_6`: The people in charge of the communal facility will favour friends and family.

- `3_statement_7`: Fishers are motivated by what is morally right.
- `3_statement_8`: Fishers will try to influence the distribution of fish stored communally to their own benefit.
- `3_statement_9`: Fishers will consider themselves first.

4.3 Datatypes

- Numeric
- Text
- Dataset also contains values `-1`: *Don't know* responses, `-2`: *What is needed* responses and `-3`: *Not relevant* responses.
- `Na`: missing values are indicated by empty cells.

4.4 Notebooks dataset used

- `2_Expected_outcomes.ipynb`

5. `data_hypothetical_rivers_mechanisms.xlsx`

5.1 Description

Dataset used for the analyses focusing on perception of important mechanisms for public goods management. For each river participants were asked to which extent they agreed or disagreed with statements indicating factors that are important for successful management of common pool resources: 1) there need to be severe punishments for abusing the common storage facility, 2) there needs to be close monitoring of contributions to and withdrawals from the common storage facility, 3) there needs to be a strong leader with decisive power over ordinary fishers to make the common storage facility work, 4) it will help the success of the storage facility if there are shared traditions around the river, and 5) it will help the success of the common storage facility if all the fishers are consulted, and given equal voice in how the system is designed and run.

Number of rows (excluding header): 82.

5.2 Variables

- `ID`: Unique anonymous ID for each participant.
- `river`: Categorical variable indicating whether the river is experiencing a healthy and sustainable stock of fish or whether the stock is declining.
- `4_statement_1`: Misuse of the communal storage should be severely punished. Agree/disagree.
- `4_statement_2`: Contributions and extraction from the communal storage must be monitored closely. Agree/disagree.
- `4_statement_3`: The facility needs a strong leader for it to work. Agree/disagree.
- `4_statement_4`: The success of the facility depends on shared traditions. Agree/disagree.
- `4_statement_5`: The success of the facility depends on co-management, i.e. that all of the fishers are consulted and given an equal voice when designing and using the system. Agree/disagree.

5.3 Datatypes

- Text
- **Na**: missing values are indicated by empty cells.

5.4 Notebooks dataset used

- **3_Perceptions of mechanisms.ipynb**

6. Verbal_statement.xlsx

6.1 Description

Participants were asked an open-ended question concerning disagreements about using the river. Note that statements from each individual often contained several dimensions. No effort has been made to rank or weigh them, only presence (1) or absence (0).

Number of rows (excluding header): 41.

6.2 Variables

- **ID**: Unique anonymous ID for each participant.
- **conflicts**: coded as 1 for statement suggesting disagreements, 0 otherwise.
- **conflict_tourism**: coded as 1 for statement suggesting disagreements between locals and tourists, 0 otherwise.
- **conflict_up_down**: coded as 1 for statement suggesting disagreements between Karasjok and Tana, 0 otherwise.
- **conflict_equipment**: coded as 1 for statement suggesting disagreements between fishers using different equipment, 0 otherwise.
- **conflict_zone**: coded as 1 for statement suggesting disagreements between in same zone of fishing places, 0 otherwise.
- **conflict_research**: coded as 1 for statement suggesting disagreements between fishers and scientists, 0 otherwise.
- **conflict_government**: coded as 1 for statement suggesting disagreements between fishers, org and government, 0 otherwise.
- **conflict_rights**: coded as 1 for statement suggesting disagreements between fishers with respect to fishing rights, 0 otherwise.
- **conflict_nation**: coded as 1 for statement suggesting disagreements between Norway and Finland, 0 otherwise.

6.3 Datatypes

- Numeric

6.3 Notebooks dataset used

- **4_Verbal_statements.ipynb**