

## Minutes WULCA-ecosystem sub working group

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Date: 22.07.2015, 3-4.30pm CET

### Agenda:

1. Discussion of the structure of the paper
2. Discussion points
3. Next steps

### Meeting:

"EQ\_slides meeting 20150722" and recording uploaded on the wulca site together with the minutes.

#### 1. Discussion of structure of the paper

- Intro: midpoint (stress not enough), endpoint (not consistent), objective
- Mat&methods:
  - include all impact pathways that are linked to water but focus on water consumption
  - Structure of the CF, selected based on the sub-factors
    - **TO BE Discussed**
  - Matrix framework for LCI and CF or take other approach (independent assessment; iterative/parallel way)
    - **TO BE Discussed**
    - Idea is to report all the links and also to mark links which we have not (yet) addressed
    - What is the matrix approach on **inventory** level?
      - There is different compartments (soil, groundwater, surface water etc.) and also watersheds -> e.g. watersheds in rows and compartments in columns
      - Matrix can be simplified (now the diagonal is presented) -> in vectors or matrices is more a mathematical question
      - **To be further discussed in future meetings**
  - Fate factors:
    - **TO BE Discussed**
    - Matrix is crucial (including temporal and spatial resolution)
      - Question of scales (watersheds, sub-watersheds, others?)
      - Steady state and seasonal/monthly FF are required (is it possible for non-steady-state?)
      - What is possible with current data availability?
- Results
  - Include hypothetical example of applicability of the LCI and CF matrices

- At least two examples; one for controlled or non-controlled (naturally controlled) flows- > for inventory and fate
- Discussion
  - Change in paradigm
  - Fill with existing methods
    - for illustrative purpose -> not global coverage and completeness is THE GOAL BUT showing how these methods can be implemented in such a framework
    - Idea of the paper is also to open the door rather than solving the problems

## 2. Discussion points

- Shall eutrophication and other impacts be integrated?
  - No, it is more to show the interactions and then focus on water consumption
- Structure of the CF
  - We need to see if EF includes XF and DF or if we separate it
- Matrix calculation (see above)
- Fate factor: how to account for short time consumption (borrowing)?
  - Maybe report input and output separately so you have detected how much is withdrawn
  - It is also a question of temporal and spatial scale
  - 3 dimensions are required as we need time and space (WS) and compartment
  - Is it becoming too much?
  - As it is a conceptual paper we can discuss the consequences and practical limitations
- Temporal aspects:
  - We need to see how temporal aspects need to be included (time of entry and time of exit) -> it can be included in inventory
    - It is much a bigger question than just for water
- Rainwater harvesting, inter-basins water transfer and other technical solutions
  - Include n in the processes (e.g. tap water, water transfers)
    - Better option, since it is a technical process and can be amended better than if it is part of the Fate model
    - Rainwater harvesting is more difficult: basically it needs to account for the water compartment that water would be flowing to (e.g. 50% soil, 40% surface water, 10% groundwater).
  - Rain an own compartment? This is an alternative to the option above
    - **To be discussed with Mike**
  - Exposure factor
    - Adaption
    - CpA of Francesca
  - Damage
    - Align with UNEP-SETAC Biodiversity group

## 3. Next steps

- Identify boundaries, compartments and flows of the multimedia model (table slide 10)
  - Especially scale of time and space

Next meeting: doodle for mid-September