



*Stress sub-working group meeting
November 21st, 2014*

Present: Anne-Marie, Lorenzo, Masaharu, Sebastian W., Stephan, Cecile, Markus, Manuele, Inga, Montse, Michael

*Please refer to video and presentations for complete discussions

1- Discussion on the four types of indicators:

DTA

CTA

DTA/A

Area/(A-D)

->maps presented

Markus: DTA/A -> A double counted?

Cecile: Multi-criteria indicator; no physical meaning, not ISO conform

Lorenzo: like abiotic depletion potential

Spain looks not scarce at all - problematic?

Stephan: DTA/A now mainly depending on size of watershed -> better to have area/A

General agreement; but is aridity to be included at all?

AMB: yes, was outcome of all workshops, to at least have special consideration for arid areas, different options (see slides)

Manuele: no need for mechanistic model since it is not along cause effect chain

What is the question: potential to deprive other users.

Markus: Especially for non-marginal changes (in arid areas by default) it is required to include aridity

Cecile: this is not LCA question, always marginal changes only

AMB: in arid areas, this does not apply, all workshops agreed is relevant to account for it

Stephan: DTA and Area/A can be considered two relevant indicator of one cause effect chain (Area/A could be considered vulnerability as it is more difficult to get water in an arid place (also in terms of costs) and DTA as stress).

Cecile how to account for both -> problem of weighting -> need to be transparent.

Stephan: not decide how aggregating but if at all.

Lorenzo: already do aggregate in all the models between human and ecosystem

Discussion about mechanistic or not -> Maybe not relevant for this midpoint

Units of indicators? -> DTA, CTA are dimensionless -> other s/m.

Lorenzo, Cecile-> can be in equivalents, but maybe we need a meaningful unit

Summary: three options: 1) only DTA/CTA, 2) only area/availability or 3) combination of it.

Problem of scaling in Area/(A- EWR)

Only retain, CTA, DTA and DTA*are/A?

Markus and Cecile against

Only retain EWR based methods?

General agreement but Lorenzo adds Discussion about special cases where the indicator is largely dominated by EWR or by human demand

Cecile: in terms of scarcity it does not matter

Manuele: we don't know which demand (ecosystem or human) is affected?

-> needs clarification

AMB -> just have one indicator but add a hint on those factors which are mainly driven by one or the other

Lorenzo: Agree to include EWR this way.

All agree

Decision: EWR is to be included in the indicator. Options remaining are: 1) DTA, 2) DTA*Area/Availability or 3) Area/(Availability-HWD-EWR)

2- Regarding the special case of arid/deserts:

Markus: availability low not necessarily arid

→ presentation Markus

→ summary: arid places need special consideration

→ WRI: model quality is too low -> suggest that we should just have them grey

Manuele: Usetox example: put high values for unknown results but not assume the impact is highest (just use to determine if it is problematic)

Agree to have it as grey areas?

Markus, Stephan, it is not operational in an LCA result

Stephan: don't put maximum value but 50%-80% of max -> can be seen but is not maximal.

Lorenz: precautionary principle -> highest value

Cecile and Markus support. Stephan: if we say half the world has low quality, half will get max value -> not so meaningful as characterization.

Manuele-> precautionary principle is not part of LCA.

just set maximal value as a flag, not as an actual value

Mike: if the indicator is monthly, then arid regions may vary across the year

Decision: if DTA is chosen, then choose maximal value for arid (and semi-arid?) areas as a flag and justified by the non-marginal contribution of water use in an arid region. Decision to be made if indicator 2 or 3 are chosen, whether this flag is also added.

BREAK

3- Discussion on choice of model for input data (water availability and water use)

Upstream withdrawal to be discounted from availability?

-> Presentation by Sebastien and Stephan

Discussion: take average or only a selection?

Availability:

Discussion about averaging (problem: different concepts, focus), or chose or only average among a few chosen method

-> Combine models but only those who make sense; strong interest for WaterGap for availability since it is the only one which has been calibrated to actual measurements. This could justify choosing this model.

For Water use model, mix use from different models? -> some problems discussed (availability and use is coupled) -> depending on whether is natural or actual availability

-> only actual availability makes sense on grid cell

-> watershed level could use natural availability (might make sense).

Markus: WATERGAP has data on grid cell and watershed level -> WaterGAP 3.

No decision made yet, Markus to contact WaterGap and see if there are issues in combining different water use and availability models, and ask more details on spatial resolution, availability of WaterGap3, etc.

Anne-Marie to ask Lorenzo and Dieter Gerten about the differences between their water use models and WaterGap results.

Discussion to be continued next Friday.