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WULCA
A LIFE CYCLE
INITIATIVE PROJECT



Human Health sub-group meeting
February 26th, 2015

Agenda

- Start recording!
- Barcelona workshop
- Modelling choices

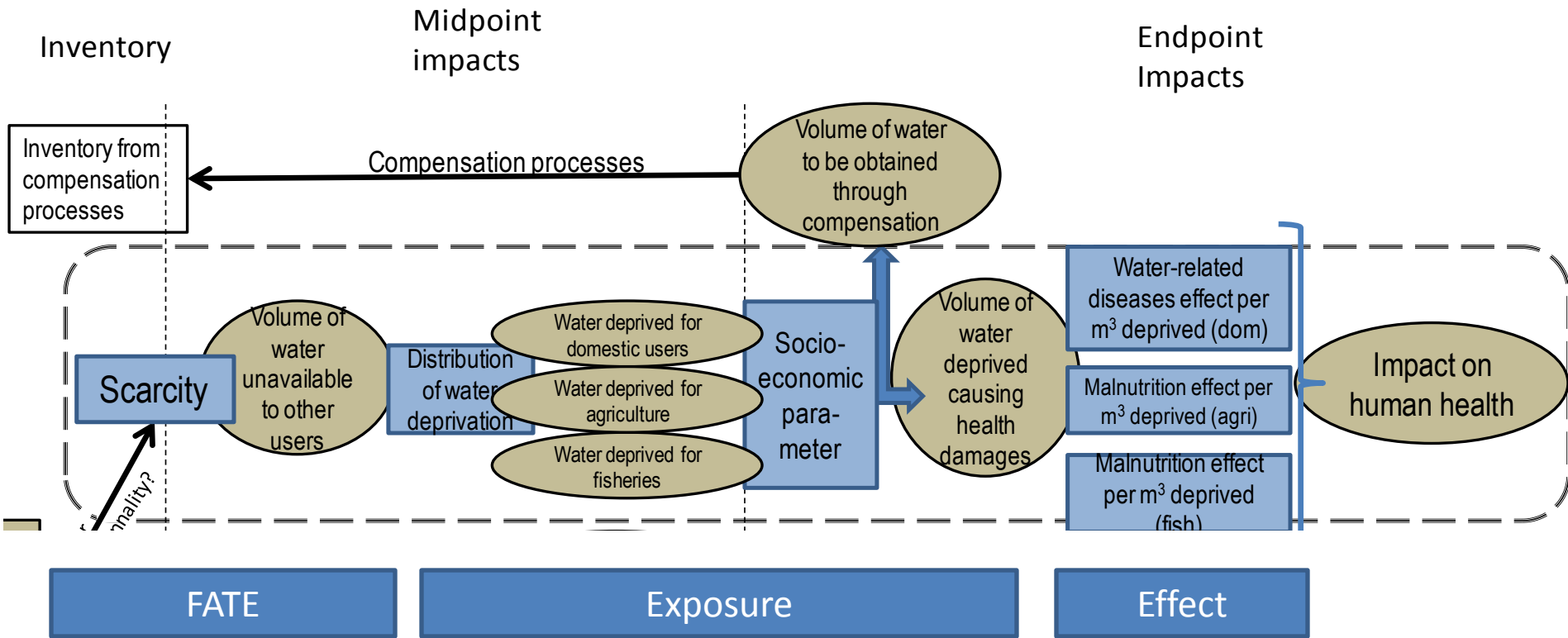


Barcelona workshop

- Sunday May 3rd
- Time (5 hrs in total I think?)
 - 10am – 4pm (incl. 1hr lunch?)
 - 1pm – 6 pm ?
- Experts invited so far: WRI (Andrew Maddocks), Camilo de Camilis (FAO),
- To invite: Petra Döll, WHO, others ?
- WULCA experts



Human Health



Human Health

💧 List of modeling aspects and choices

Fate (Scarcity)		Exposure	Effect		
1	use to availability ratio	9	Domestic user deprivation	15	Malnutrition
2	indicator modeling	10	Agricultural water deprivation	16	Water-related diseases
3	upper and lower values	11	Fisheries water deprivation		
4	Surface and groundwater	12	Socio-economic parameter		
5	Quality integration	13	Trade effect		
6	Geographical resolution	14	Source of Data for user distribution		
7	Temporal resolution				
8	Source of data				

Consistency with stress
group outcome...

Fate (Scarcity)	Option 1	Option 2	Option 3	Option 4	Comment
use to availability ratio	CTA 3	WTA 2			
indicator modeling	S-curve with thresholds 1	straight line 3	other? 1		I believe the straight line is the most parcimonious option as there are less choices needed for its parameterization. However I believe this is going to be one of our most debatable choice as there is no way to justify one against the other and as it is a sensitive choice. More than choosing a line or a S curve, the parameterization of the line or of the S curve (in particular its slope) is crucial.
upper values	1 4	Other? 1			
lower values	0 3	0.01	Other? 1		
Surface and groundwater	different indicators 1	aggregated "as one water source" (all water use/all water available) 2	aggregated with weighted average 2		I believe we should provide both : some disaggregated values for specific water types and some aggregated values based on weighted averages. Both are usefull and in some regions it makes a difference.
Quality integration	exclude 1	include: water categories (ref: Boulay) 2	Other? 1		Here again I believe that both are needed : some quality specific CFs and some generic CFs fulfilling different needs
Geographical resolution	provide country and watershed values based on weighted average of sub-watersheds 3	other suggestion? 1			Here there is another modelling option on which we need to reach consensus : weighted averages mean choosing a weighting set. Do we want to weight using consupcion or withdrawal values ? (true also for questions 4 & 5)
Temporal resolution	Provide monthly and annual values based on weighted average of monthly values 5	other suggestion? 0			
Source of data	WaterGap	Aquaduct 1	Data used in WFN (Fekete et al and Mekonnen et al) 1	Other? 1	Difficult question for me... I believe we need to discuss this more in depth.

Exposure	Option 1	Option 2	Option 3	Option 4	Comment
Domestic user deprivation	include based on % of water use (ref: Motoshita et al 2010, Boulay et al 2011*) 4	exclude (ref: Pfister et al 2009*) 1	Other		I add here an "Other" option : Ideally the affected user should be identified, which may be domestic or not, and which may not correspond to the % of current water use. But I am aware we are not able to do so in the current state of our knowledge, and both options (ie including domestic use or considering only irrigation as being affected) are acceptable. Here again this one is a critical choice we have to make which has a strong influence on the result.
Agricultural water deprivation	include based on % of water use (ref: Motoshita, Pfister, Boulay) 5	include for 100% of change of water availability (ref: Boulay et al 2011*)	Other		same comment
Fisheries water deprivation	include (ref: Boulay et al 2011*) 2	exclude 2			This is not an influent choice. I would exclude it to respect parcimony principle.
Socio-economic parameter	Adaptation capacity (GNI based) (ref: Boulay et al 2011, Motoshita et al 2014*) 3	HDI based (ref: Pfister et al 2009*) 3	other?		
Trade effect	include (ref. Motoshita et al 2014*) 5	exclude			
Source of Data for user distribution	WaterGap 1	Aquastat 2.0 1	Vorosmarthy	other?	Difficult question for me... I believe we need to discuss this more in depth.
Effect					
Malnutrition	case-based assessment (ref: Motoshita et al 2010/2014, Pfister 2009*) 3	depth of hunger assessment (ref: Boulay et al 2011*) 1	other?		Difficult question for me... I believe we need to discuss this more in depth.
Water-related diseases	regression analysis (ref: Motoshita et al 2010*) 1	direct modeling (ref: Boulay et al 2011*) 1	other?		Difficult question for me... I believe we need to discuss this more in depth.

Workshop preparation: 5-10 min presentation per aspect, and 20-25 min discussion

Distribution of presentations of concepts?

Question 1: Is it relevant to differentiate surface and ground water when assessing potential human health impacts from water deprivation for domestic and/or agricultural water deprivation? If so, how should this be integrated?

Resp: Cecile

Question 2: Should the method include quality aspects when assessing lower water availability for agriculture and/or domestic users? If so, how can this be operationalized and which simplifying assumptions could be made?

Resp: Cecile

Question 3: Should the model include potential water deprivation of domestic users?

Resp: Anne-Marie

Question 4: What is the most recommendable parameter in terms of relevance, robustness and reliability, to describe the adaptation capacity?

Resp: Stephan?



Question 5: Should malnutrition impacts from a decrease in food production caused by water shortages in a country be propagated through trade? If so, is the trade effect as incorporated by Motoshita et al (2014) robust enough or are there additional recommendable ways to include this effect?

Resp: Masaharu

Question 6: What is the most relevant way to assess DALY associated with a lower food intake caused by agricultural water deprivation?

Resp: Stephan ?

Question 7: What is the most relevant way to assess DALY associated with a lower access to water for domestic use?

Resp: Masaharu (and Anne-Marie)



Next Steps...

Preparatory slides for workshop
Presentations at the workshop?

Following workshop – consensus
finding on modelling choices

