

Measurement and Validation of HH Water Security Scale (HWISE) in Mexico

PS 13.2.3: Public Opinion and Policymaking
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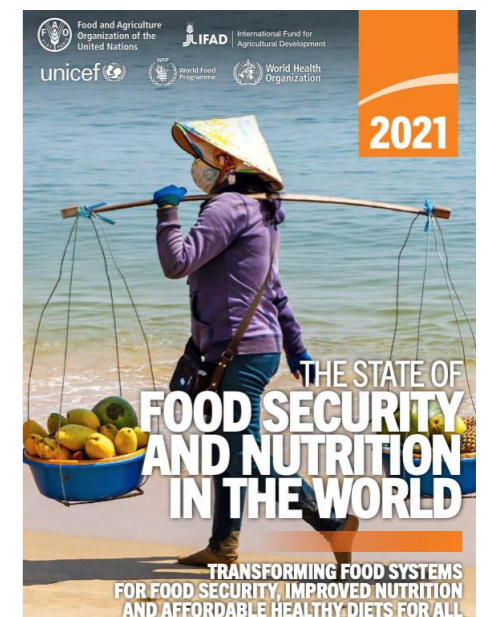
Background: HH Food Security surveys in Mexico

- Starting in 2006 Data OPM conducted the first four surveys of ELCSA = food security at the HH level / including the first national measurement.
- CONEVAL, office in charge of measuring poverty in Mexico, used our 2008 national survey to complement its poverty indicators.
- INEGI (office of the census) has been measuring it annually for CONEVAL (n90K) ever since.
- Discussion in FAO 2010 meeting to measure food security on a global scale

WATER Security

UN. What is Water Security? : The United Nations; 2013. Available from: <https://www.unwater.org/publications/water-security-infographic/>

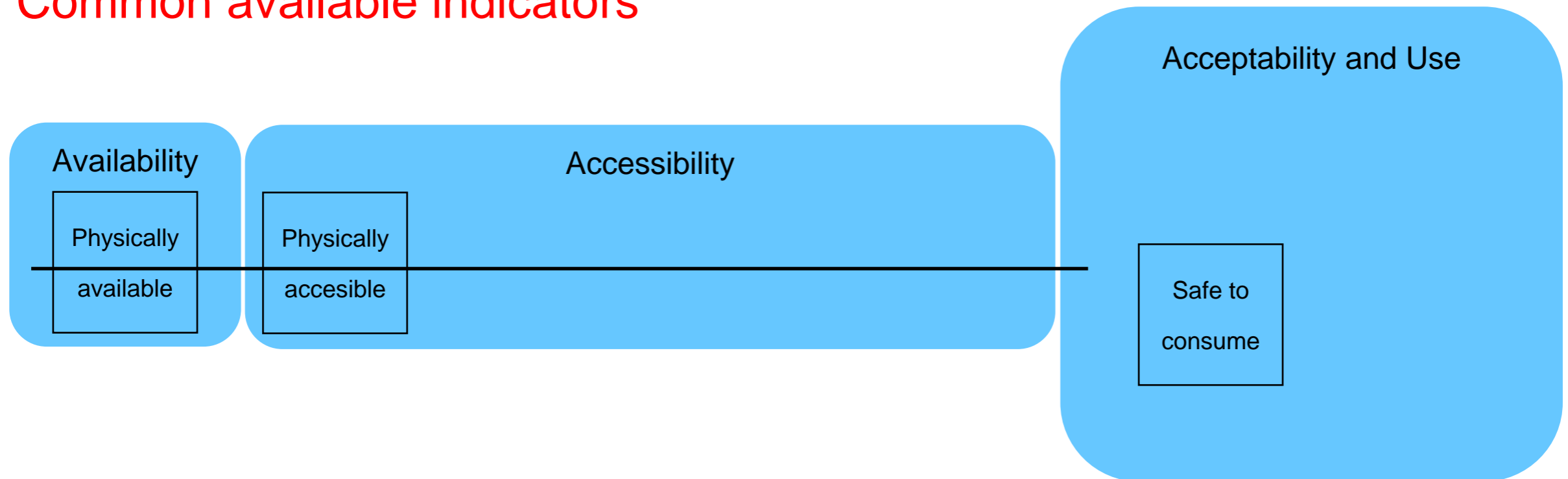
- Basic human right = constant access to water to be able to satisfy basic drinking + hygiene + sanitation needs (SDG 6)
- Water security is correlated with food security
- 2018 UN panel call for higher-resolution data
- Experiences of use and access to water and food are more precise than measuring available quantities of water and food



Water Indicators

Rosinger AY, Young SL. The toll of household water insecurity on health and human biology: Current understandings and future directions. WIREs Water. 2020;7(6).

Common available indicators



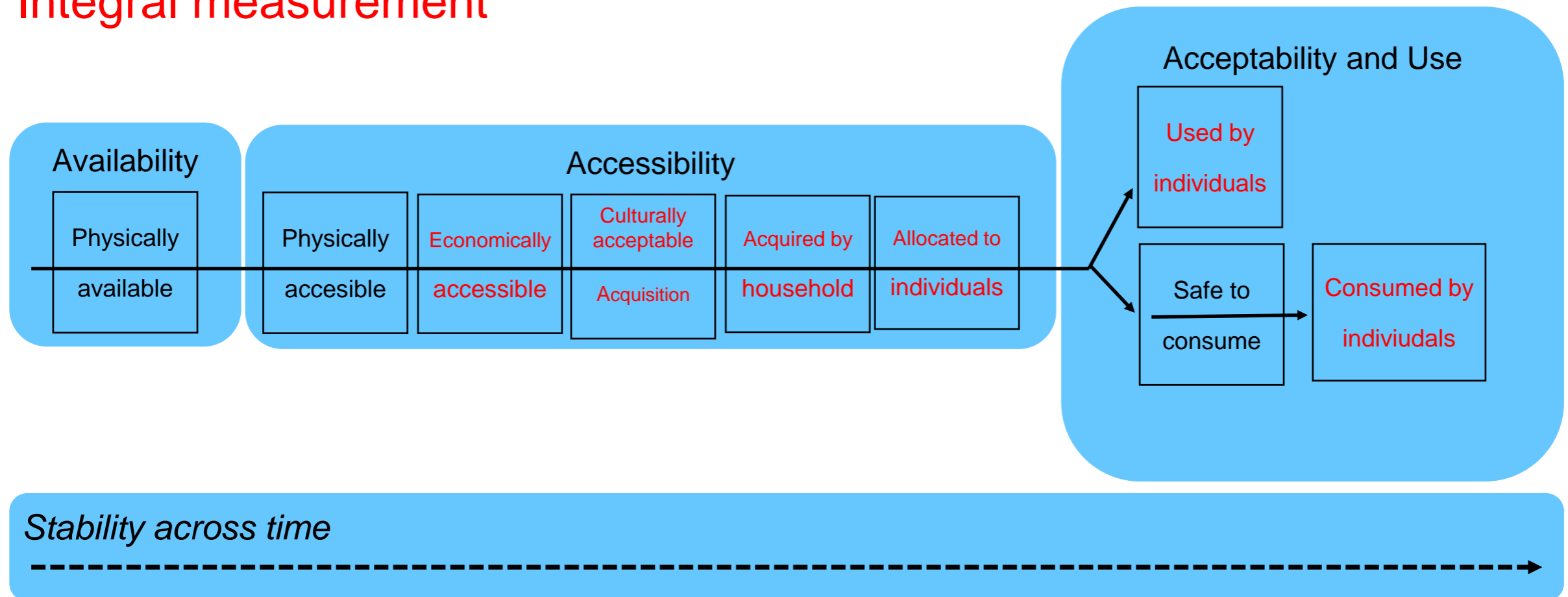
MX CENSUS 2020

3.5% = no running water
4.3% = no sewer system

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Integral measurement



Graphic showing the four domains of water insecurity and depicts the following:

1. *Availability: Whether or not water is physically available.*
2. *Accessibility: Whether or not water is physically, economically, or politically accessible. As well as whether or not it is culturally acceptable to acquire.*
3. *Use: Is the water acceptable and safe? For consumption? For non-ingestive uses?*
4. *Are domains 1 through 3 stable over time?*

HWISE: Household Water InSecurity Experiences Scale













- Initial stage = 28 sites worldwide - HWISE sites were selected for maximal heterogeneity in region of the world, infrastructure, and problems with water
- 12 item one-dimensional scale about access, use and stability of water in the HH
- Time reference: experiences in previous 4 weeks
- Four response options: never (0), rarely (1), sometimes (2), always (3).
- 36-point index with a 12+ cut-point to estimate prevalence (insecurity)



HWISE: 12 item scale

How often in the last 4 weeks have you or anyone in your household ...

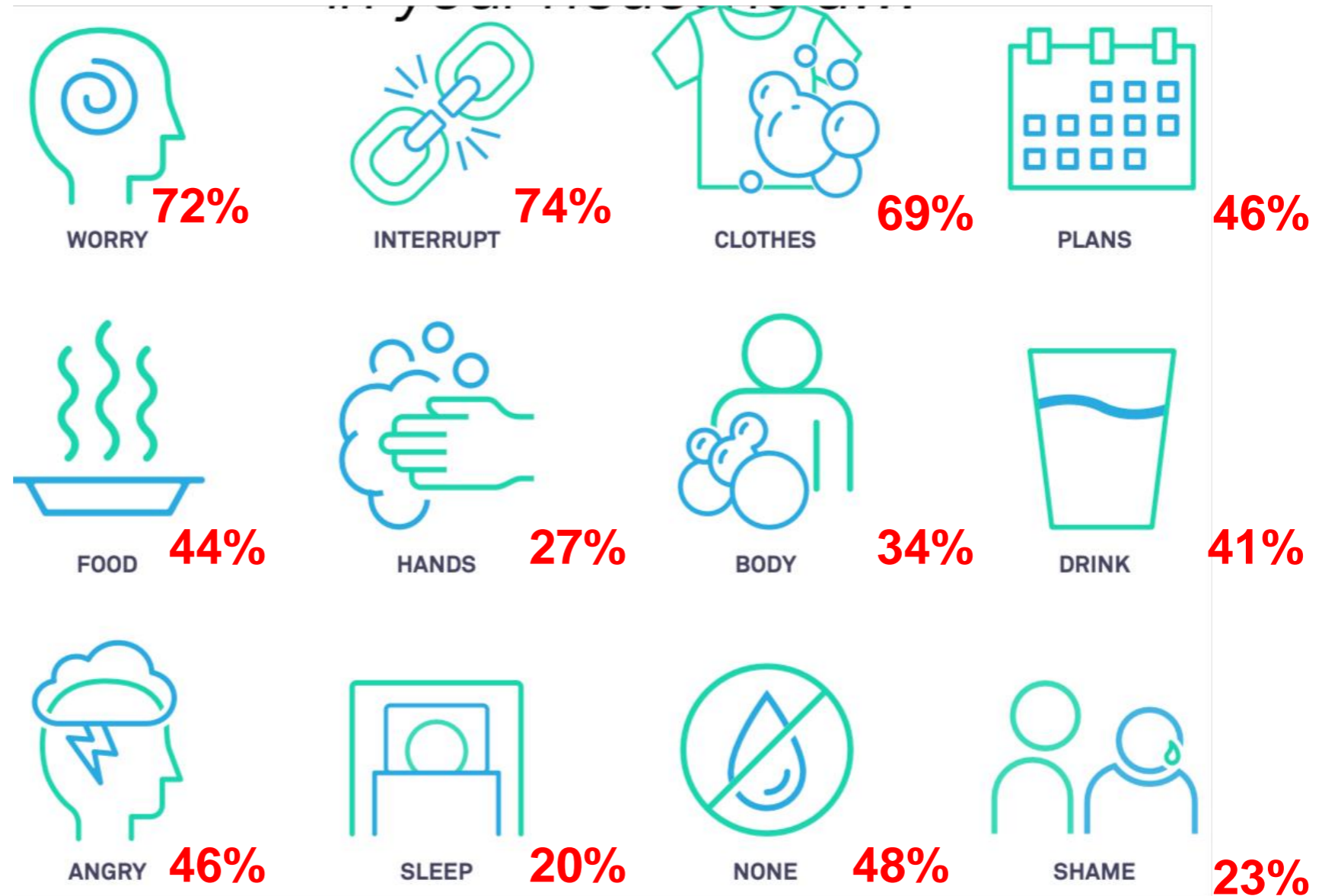
3-4 minutes

LABEL	ITEM	SCORE
	Worry In the last 4 weeks, how frequently did you or anyone in your household worry you would not have enough water for all of your household needs?	
	Interrupt In the last 4 weeks, how frequently has your main water source been interrupted or limited (e.g. water pressure, less water than expected, river dried up)?	
	Clothes In the last 4 weeks, how frequently have problems with water meant that clothes could not be washed?	
	Plans In the last 4 weeks, how frequently have you or anyone in your household had to change schedules or plans due to problems with your water situation? (Activities that may have been interrupted include caring for others, doing household chores, agricultural work, income-generating activities, sleeping, etc.)	
	Food In the last 4 weeks, how frequently have you or anyone in your household had to change what was being eaten because there were problems with water (e.g., for washing foods, cooking, etc.)?	
	Hands In the last 4 weeks, how frequently have you or anyone in your household had to go without washing hands after dirty activities (e.g., defecating or changing diapers, cleaning animal dung) because of problems with water?	
	Body In the last 4 weeks, how frequently have you or anyone in your household had to go without washing their body because of problems with water (e.g., not enough water, dirty, unsafe)?	
	Drink In the last 4 weeks, how frequently has there not been as much water to drink as you would like for you or anyone in your household?	
	Angry In the last 4 weeks, how frequently did you or anyone in your household feel angry about your water situation?	
	Sleep In the last 4 weeks, how frequently have you or anyone in your household gone to sleep thirsty because there wasn't any water to drink?	
	None In the last 4 weeks, how frequently has there been no useable or drinkable water whatsoever in your household?	
	Shame In the last 4 weeks, how frequently have problems with water caused you or anyone in your household to feel ashamed/excluded/stigmatized?	
TOTAL		

HWISE Mx National Survey

n1000 / October 2021 / multi-stage sampling / CAPI

**32% of Mexican HH are
water insecure**



HWISE in Mexico

- Validation using other scales: FIES (food insecurity severity experience matrix) + GAD7 (general anxiety disorder) + WASH (water scarcity)
- Higher incidence in rural areas + women respondents
- Highly correlated with food insecurity and SEL
- Coming soon: experiment using a binary scale with rasch analysis to establish cut-off points to identify “levels” of insecurity

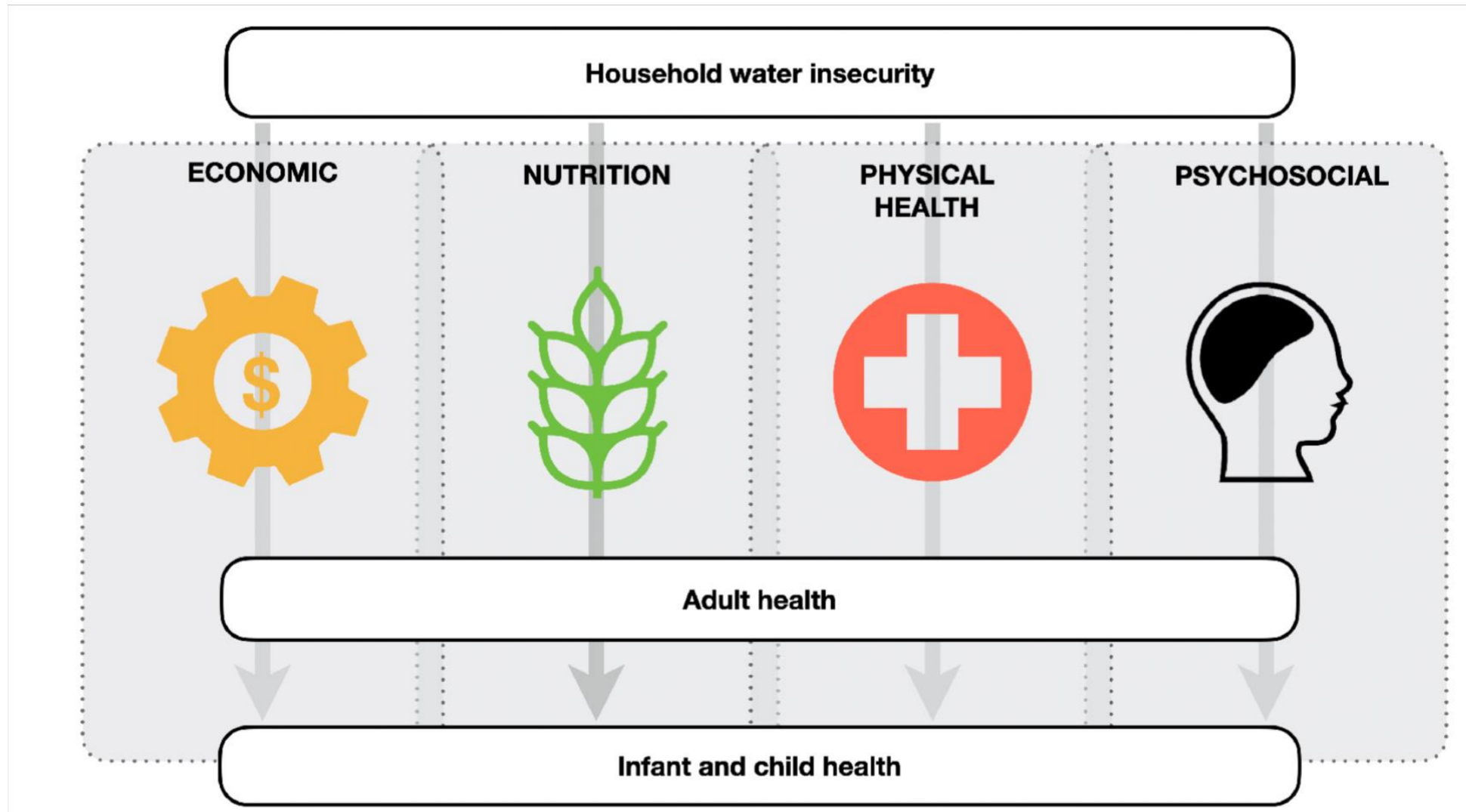
Relevance of HWISE

<https://www.ipr.northwestern.edu/wise-scales/about-the-scales/advantages-of-experiential-measures-of-water-insecurity/index.html>

- A human voice to the water situation
- More proximal to well-being than just availability, infrastructure
- Able to “unpack” the complexity of the issue
- Comparable across time, infrastructure, climates, culture
- Quick to collect + simple to analyze
- “Sister” scale to the Food Insecurity Experience Scale
- Many uses: prevalence + targeting resources + impact evaluation

Relevance of HWISE

Young SL, Frongillo EA, Jamaluddine Z, Melgar-Quinonez H, Perez-Escamilla R, Ringler C, et al. Perspective: The Importance of Water Security for Ensuring Food Security, Good Nutrition, and Well-being. *Adv Nutr.* 2021;12(4):1058-73.



GRIT: an idea for WAPOR



Every year at the annual conference suggest a topic of research to its members/community and generate a Global Report on an Important Topic (GRIT)

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