



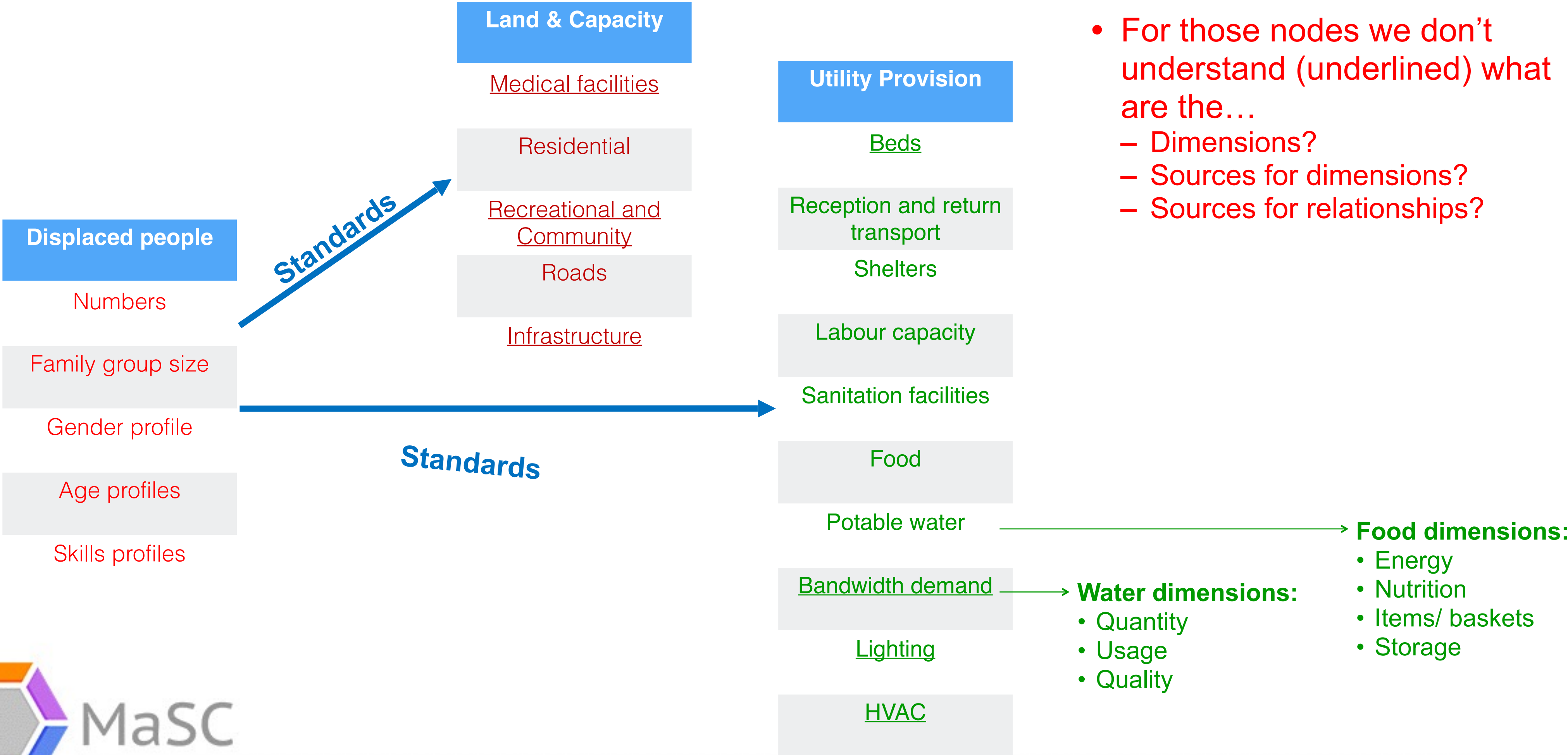
Populating the Causal Map



Project co-funded by the EU Civil Protection Mechanism

Exercise 1: 'Known unknowns'

Current focus: Relationships between nodes, dimensions and drivers



- For those nodes we don't understand (underlined) what are the...
 - Dimensions?
 - Sources for dimensions?
 - Sources for relationships?



Exercise 1: 'Known unknowns'

Current focus: Relationships between nodes, dimensions and drivers

Node: e.g. beds (random example)

Suggested dimensions:

e.g. length
e.g. width
e.g. height from the ground
e.g. blanket thickness

Sources for dimensions:

e.g. UK Health and Safety executive

Sources for relationships:

e.g. Dr Rusty Bedspryns, Head of Engineering, Institute for Bed Comfort



Project co-funded by the EU Civil Protection Mechanism



Coffee break



Project co-funded by the EU Civil Protection Mechanism



Setting our requirements

Workshop 1 - Session 6



Project co-funded by the EU Civil Protection Mechanism



Comparing Standards

Dr Clare Silvester
DIEM Consulting

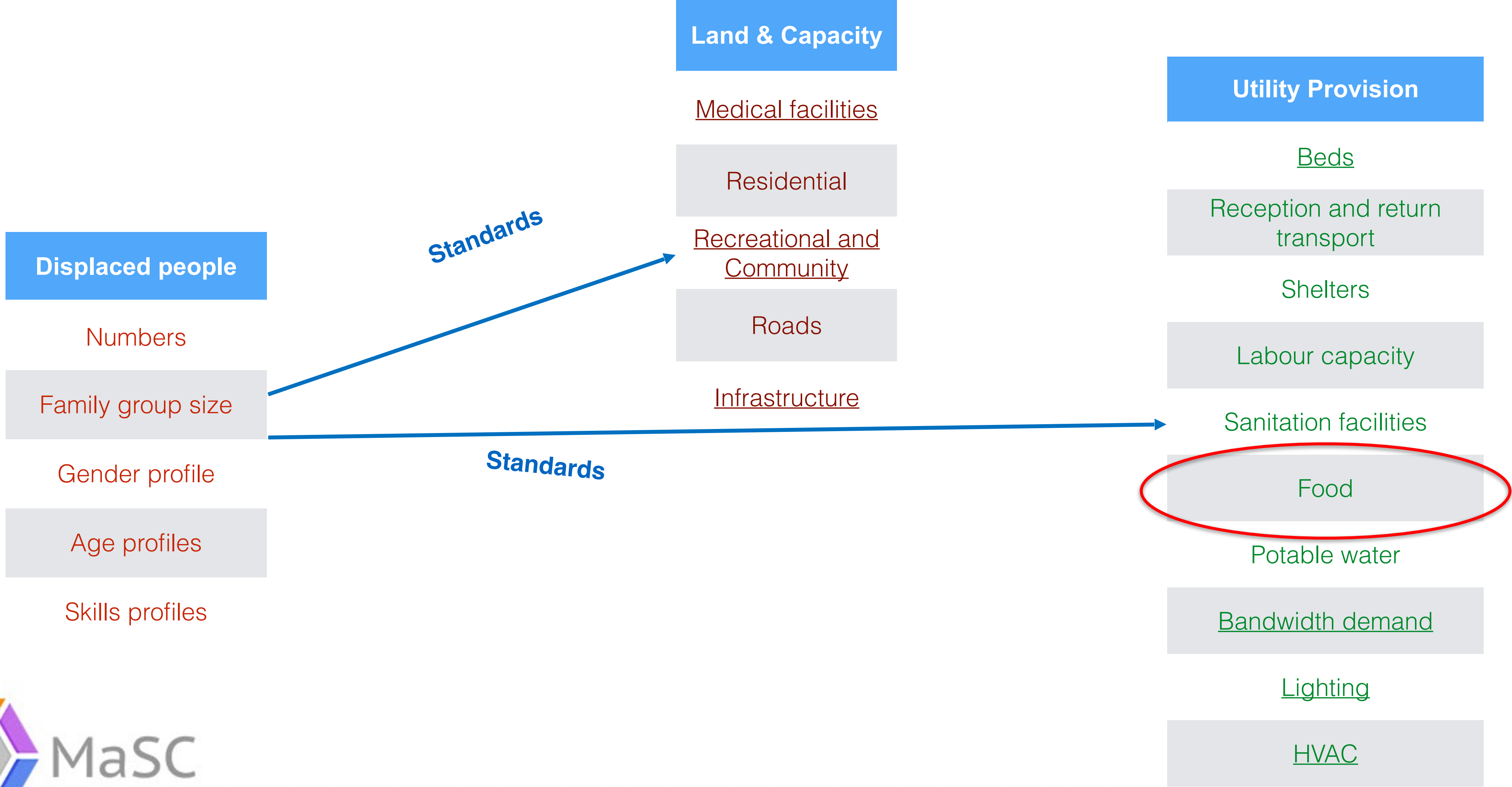


Project co-funded by the EU Civil Protection Mechanism

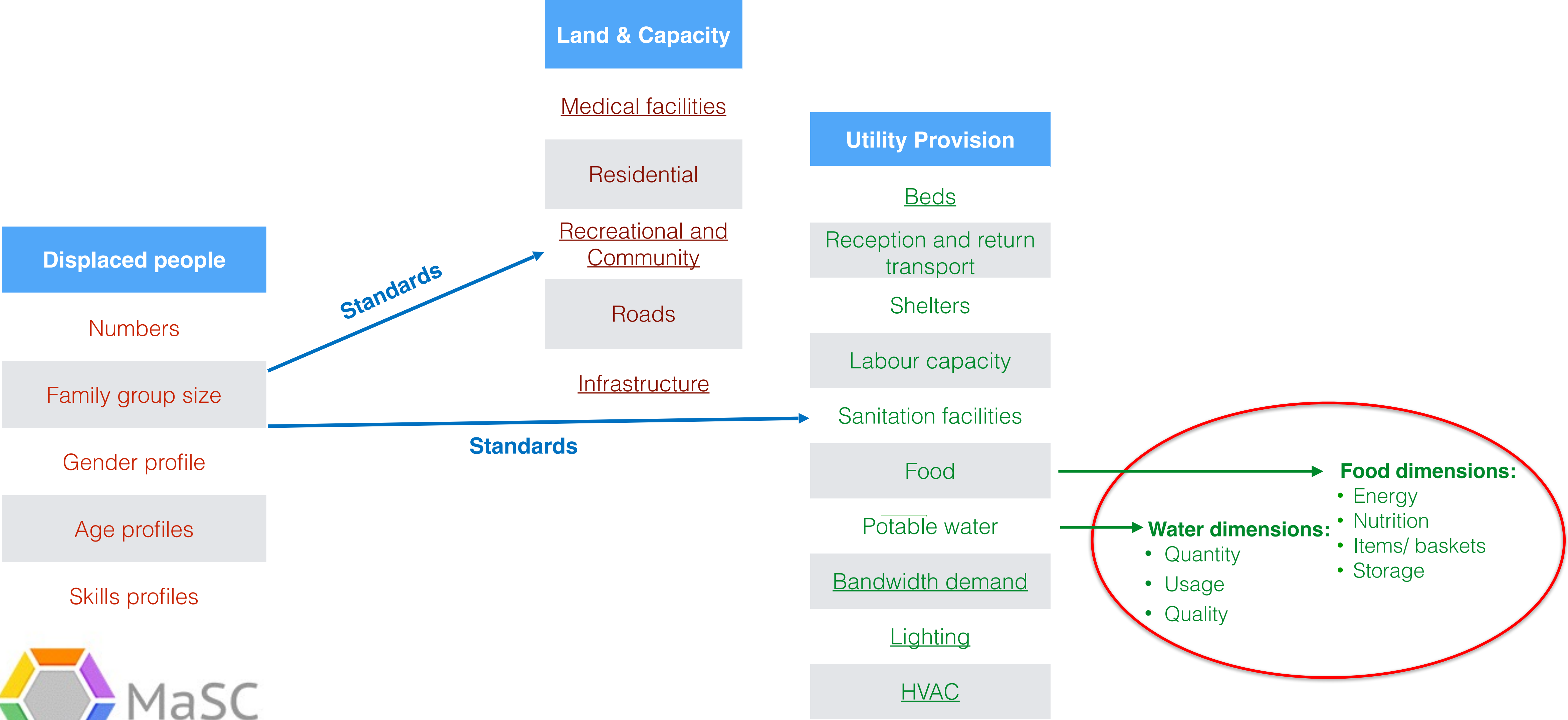
Current Standards - Sources of data

- International humanitarian bodies
- Governmental bodies and directives
- Military organisations
- Festival organisers

Current Standards - Examples: Food and water



Current Standards - Examples: Food and water



Current Standards - Food: Energy

Parameter	SPHERE	UNHCR	WFP	WHO
Energy Requirements	2,100 kcals per person per day <ul style="list-style-type: none"> • 10-12% of total energy provided by protein • 17% of total energy provided by fat • adequate micronutrient intake through fresh or fortified foods 	2100 kcal as reference Protein: 10-12% of the energy should come from protein (i.e., 52g to 63g of protein per day). Fat/oil: At least 17% of the energy should be in the form of fat (i.e., 40g of fat per day)	2100 kcal per person in a warm climate undertaking light physical activity	Adopt 2,100 kcal/person as a reference figure
Temperature		An additional 100 Kcal/person/day should be added to the food ration for every 5°C that the environment temperature drops below an average of 20°C	Add 100 kcal for every 5°C that the mean temperature falls below 20° C	If the temperature is below 20° C, adjust energy requirements upward by 100 kcal for every 5° below 20° C
Health or Nutritional Status of the population	HIV/AIDS prevalence may affect average requirement			If either of these is extremely poor, adjust the energy requirements upwards by 100–200 k
Demographics	<ul style="list-style-type: none"> • Requirements will increase if activity levels exceed light (ie 1.55 x Basal Metabolic Rate for men and 1.56 x Basal Metabolic Rate for women) • Young children (6 months old) require energy-dense foods in addition to breast milk; it is recommended that 30% of the energy content of their diet comes from fat sources • Foods should meet the additional protein and micronutrient requirements of older people 	<ul style="list-style-type: none"> • Pregnant women: An additional 285 kcals/day • Lactating women: Additional 500 kcals/day • 	<ul style="list-style-type: none"> • When adult males make up more than 50% of the population, the energy requirements increase. • If population is mainly women and children the requirements decrease • Plus or minus 5% as appropriate. • Add 140 for medium activity and 350 for heavy activity 	<ul style="list-style-type: none"> • Pregnant women: An additional 285 kcals/day • Lactating women: Additional 500 kcals/day • Infants (6-24 Months): 30–40% of energy should come from fat; protein should be at least 12%

Current Standards - Food: Nutrition

Parameter	SPHERE	UNHCR	WFP	WHO
Protein	52-63g	52-71g	52-58g	
Fat	40g	40-48g	40-43g	
Vitamin A	1.666 IU (or 0.5mg retinol equivalents)	1g or 3333 IU per day	500 µg	500 µg
Vitamin B1 (Thiamine)	0.9mg (or 0.4mg per 1,000 kcal intake)	1.2-1.5mg	0.9 mg	0.9 mg
Vitamin B2 (Riboflavin)	1.4mg (or 0.6mg per 1,000 kcal intake)			1.4 mg
Vitamin B3 (Niacin)	12.0mg (or 6.6mg per 1,000 kcal intake)	18mg		12.0 mg
Vitamin B6			1.1mg	
Vitamin B9 (Folic Acid):	160 µg		160 µg	160 µg
Vitamin B12	0.9 µg		0.9 µg	
Vitamin C	28.0mg	30 – 60mg/day, min.10mg/day	28mg	28.0 mg
Vitamin D	3.2 - 3.8 µg calciferol	300-400 IU		3.8 µg
Iodine	150 µg	100 µg	150 µg	150 µg
Iron	22mg (low bio-availability ie 5-9%)	10mg	22mg	22mg
Zinc	12.3 mg	15mg	12.3mg	

Current Standards - Food: Items/baskets

Parameter	PAHO	UNHCR	WFP
Cereal/rice/bulgur	400g	400g	400g
Pulses	60g	60g	60g
Vitamin A fortified oil	25g		25g
Vegetable oil		25g	
Fortified blended food	50g	100g	50g
Sugar	15g	15g	15g
Salt	15g	5g	5g

Current Standards - Water: Quantity and Usage

Parameter	Data sources	Range of values (litres per day)
Daily fluid intake <ul style="list-style-type: none"> Female Male Child 	WHO	Average to extreme <ul style="list-style-type: none"> 2.2 to 5.5 (pregnancy and lactating) 2.9 to 4.5 (manual labour/high temp) 1.0 to 4.5 (manual labour/high temp)
Generic short-term minimum for drinking, food preparation and basic hygiene (2-7 days)	NATO, SPHERE, WHO	7-20 of which ~40% hot water
Generic sustained minimum for drinking, food preparation and basic hygiene	SPHERE, WHO, NATO	15-25 of which ~65% hot water
Generic temporary camp requirement for all purposes including laundry	NATO, WHO	70-100 of which ~65% hot water
Generic permanent camp requirement for all purposes including laundry	NATO	125-150 of which ~65% hot water
Storage	NATO/UK	<ul style="list-style-type: none"> 3 days supply for 125% of a camp re-treated if held more than 3 to 5 days central reserve of 2 days of supply

Current Standards - Water: Quality

Parameter	EU	Poland	UK	WHO
Chemical				
• Acrylamide	0.1 µg/l	0.1 µg/l	0.1 µg/l	0.5 µg/l
• Antimony	5.0 µg/l	5.0 µg/l	5.0 µg/l	5.0 µg/l
• Arsenic	10 µg/l	10 µg/l	10 µg/l	10 µg/l
• Benzene	1.0 µg/l	1.0 µg/l	1.0 µg/l	1.0 µg/l
• Benzo(a)pyrene	0.01 µg/l	0.01 µg/l	0.01 µg/l	0.7 µg/l
• Boron	1.0 mg/l	1.0 mg/l	1.0 mg/l	1.0 mg/l
• Bromate	10 µg/l	10 µg/l	10 µg/l	10 µg/l
• Cadmium	5.0 µg/l	5.0 µg/l	5.0 µg/l	5.0 µg/l
• Chromium	50 µg/l	50 µg/l	50 µg/l	50 µg/l
• Copper	2.0 mg/l	2.0 mg/l	2.0 mg/l	2.0 mg/l
• Cyanide	50 µg/l	50 µg/l	50 µg/l	50 µg/l
• 1,2-dichloroethane	3.0 µg/l	3.0 µg/l	3.0 µg/l	3.0 µg/l
• Epichlorohydrin	0.10 µg/l	0.10 µg/l	0.10 µg/l	0.40 µg/l
• Fluoride	1.5 mg/l	1.5 mg/l	1.5 mg/l	1.5 mg/l
• Lead	10 µg/l	10 µg/l	10 µg/l	10 µg/l
• Mercury	1.0 µg/l	1.0 µg/l	1.0 µg/l	1.0 µg/l
• Nickel	20 µg/l	20 µg/l	20 µg/l	20 µg/l
• Nitrate	50 mg/l	50 mg/l	50 mg/l	50 mg/l
• Nitrite	0.5 mg/l	0.5 mg/l	0.5 mg/l	0.5 mg/l
• Pesticides	0.1 µg/l	0.1 µg/l	0.1 µg/l	0.1 µg/l
• Pesticides- total	0.5 µg/l	0.5 µg/l	0.5 µg/l	0.5 µg/l
• Polycyclic aromatic hydrocarbons	0.1 µg/l	0.1 µg/l	0.1 µg/l	0.1 µg/l
• Selenium	10 µg/l	10 µg/l	10 µg/l	10 µg/l
• Tetrachloroethane and trichloroethene	10 µg/l	10 µg/l	10 µg/l	70 µg/l
• Trihalomethanes – total	100 µg/l	100 µg/l	100 µg/l	100 µg/l
• Vinyl chloride	0.5 µg/l	0.5 µg/l	0.5 µg/l	0.5 µg/l

Current Standards - Water: Quality

Parameter	EU	Poland	UK	WHO
Microbiological <ul style="list-style-type: none"> • Clostridium perfringens • Coliform bacteria • Escherichia coli (E. coli) • Enterococci • Pseudomonas aeruginosa • Colony count 22degrees C • Colony count 37degrees C 	0/100ml 0/250ml 0/250ml 0/250ml 100/ml 20/ml		0/100ml 0/100ml 0/100ml	
Indicator <ul style="list-style-type: none"> • Aluminium • Ammonium • Chloride • Colour • Iron • Manganese • Odour • Sulphate • Sodium • Taste • Tetrachloromethane • Turbidity 	200 µg/l 0.5 mg/l 250 mg/l Acceptable 200 µg/l 50 µg/l Acceptable 250 mg/l 200 mg/l Acceptable 3 µg/l Acceptable	200 µg/l 0.5-1.5 mg/l 250 mg/l 15 mg/l 200 µg/l 50 µg/l Acceptable 250 mg/l 200 mg/l Acceptable 3 µg/l 1 SiO2/l	200 µg/l N/A N/A 20 mg/l 200 µg/l 50 µg/l Acceptable N/A 200 mg/l Acceptable 3 µg/l NTU	200 µg/l 0.5 mg/l 250 mg/l 15 mg/l 200 µg/l 0.1-0.5 mg/l Acceptable 250 mg/l 200 mg/l 3 µg/l 1/5 SiO2/l



Project co-funded by the EU Civil Protection Mechanism