



CitiObs

ECSCA Webinar

Inclusive Communications in Citizen Scienceleaving no one behind

19 September 2023 – Margaret Gold

m.j.gold@cwts.leidenuniv.nl



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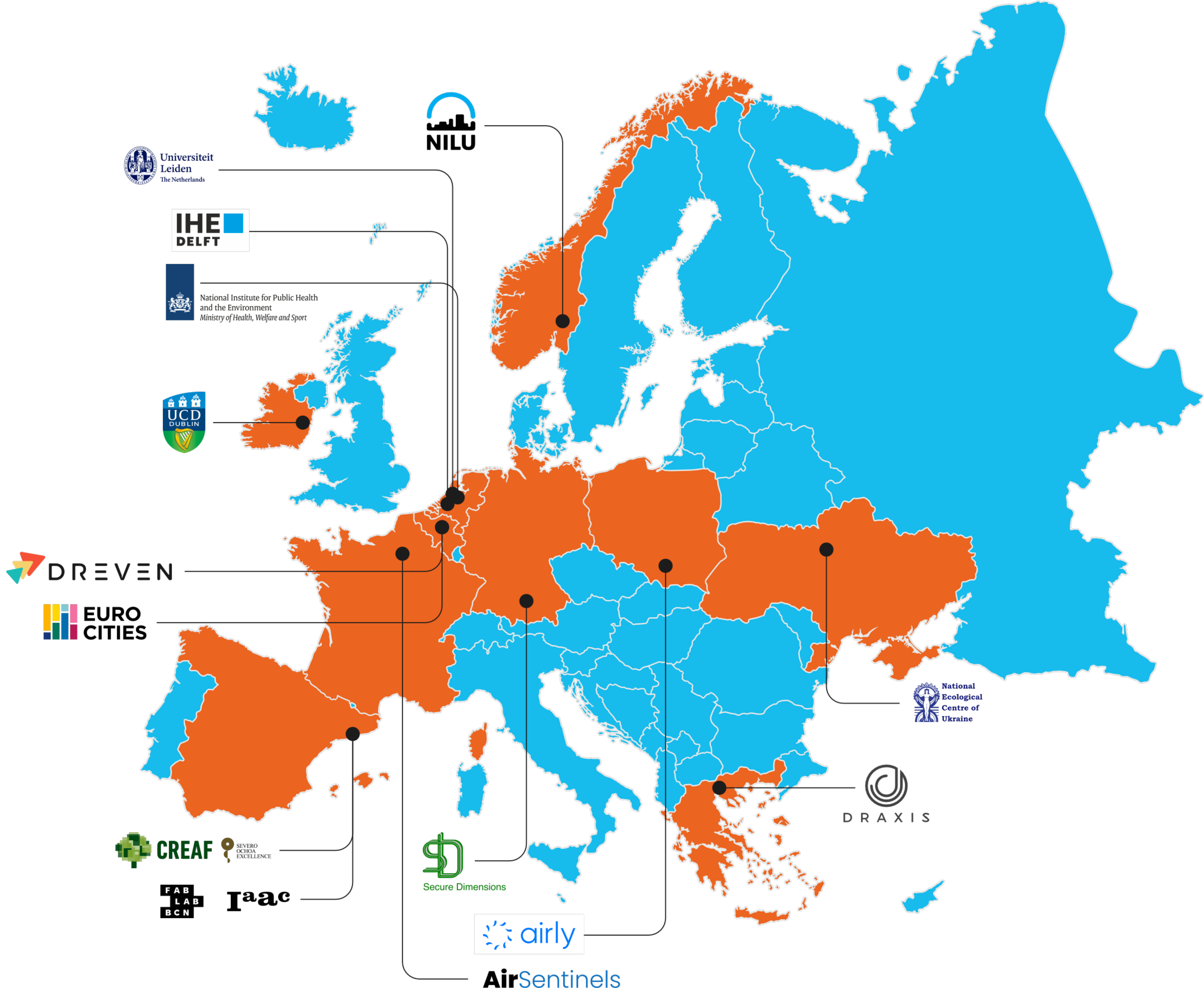
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CitiObs

HORIZON-CL6-2022-
GOVERNANCE-01-08

Uptake and validation of
citizen observations to
complement
authoritative
measurement within the
urban environment and
boost related citizen
engagement

January 2023 - December 2026
(48 mo)





AIR QUALITY MONITORING in the URBAN Environment

Sensors and wearables

Interoperable data aggregation

Novel validation approach based on automated
remote validation using AI and user
annotation



GLOBAL



DATA
AGGREGATORS
& SCIENTISTS

KNOWLEDGE

DATA/EVIDENCE

POLICY/
DECISION
MAKERS



CITIZEN-LED ACTION
POLICY DECISIONS

DECISIONS

CITIZENS &
COMMUNITIES



LOCAL



CitiObs

AIR QUALITY MONITORING in the URBAN Environment

...with partners across the Quadruple Helix...



FRONT RUNNERS

Athens, Barcelona, Dublin, Rotterdam, Kristiansand

IMPLEMENTERS

Mechelen, Budapest, Lappeenranta, Helsinki, Grenoble, Milan, Amsterdam, Leiden, Amersfoort, Utrecht, Zwolle, Gothenburg, Oslo, Bergen, Warsaw, Krakow, Porto, Cluj-Napoca, Kyiv, Lviv

FELLOWS

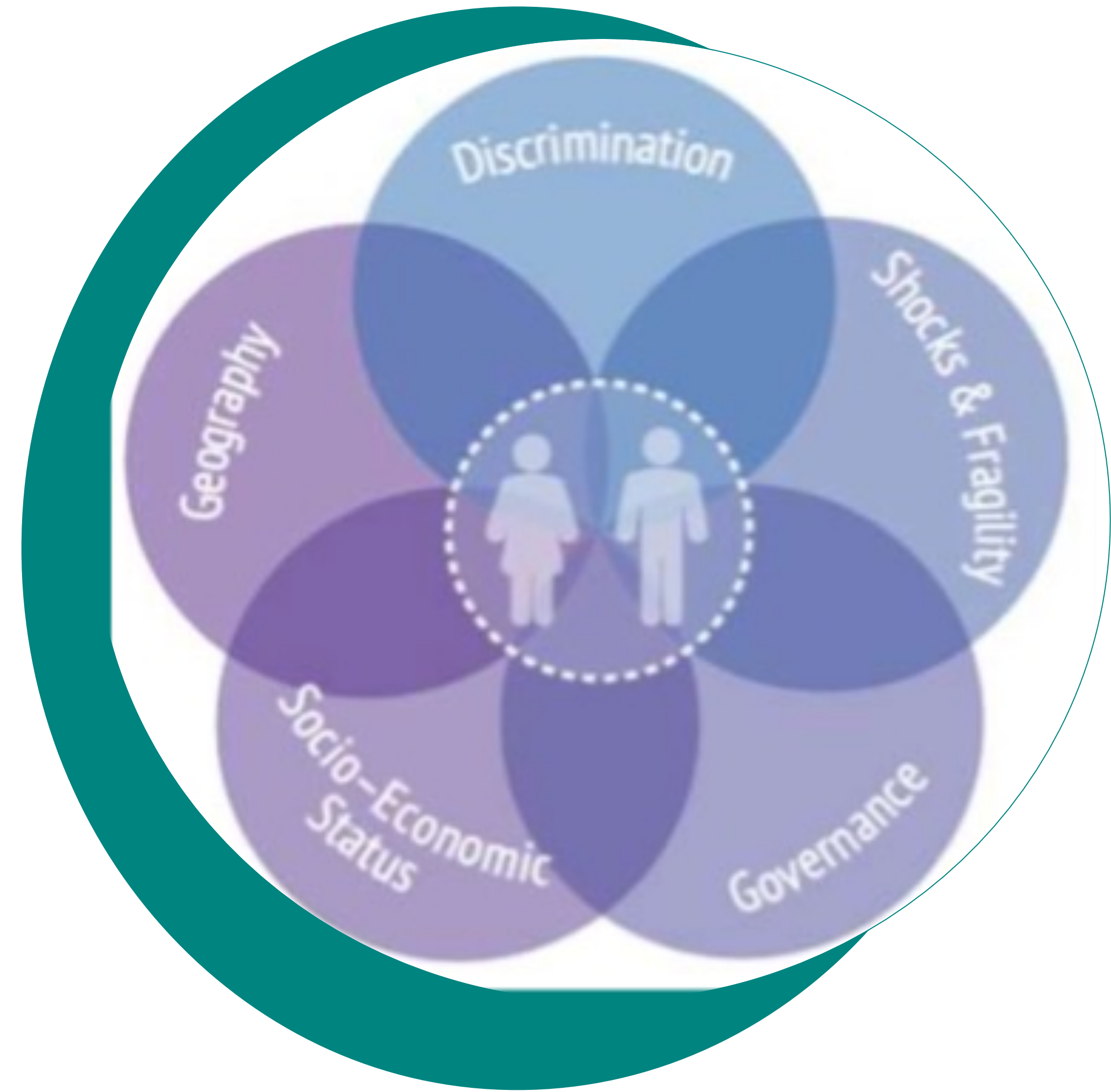
50 cities will be invited to participate in knowledge sharing and peer learning with the Implementer cities, through an open call



Leave No One Behind

UN Sustainable Development Goals

"People get left behind when they lack the choices and opportunities to participate in and benefit from development progress. All persons living in extreme poverty can thus be considered 'left behind', as can those who endure disadvantages or deprivations that limit their choices and opportunities relative to others in society".





Social inequality influences the impact of household air pollution on birth outcomes

Indoor cooking with biomass fuel adversely affects birth outcomes with greater impact in children born in low SES Households

Method and Cohort



Prospective cohort study, n=800



Low socio-economic status, N= 473

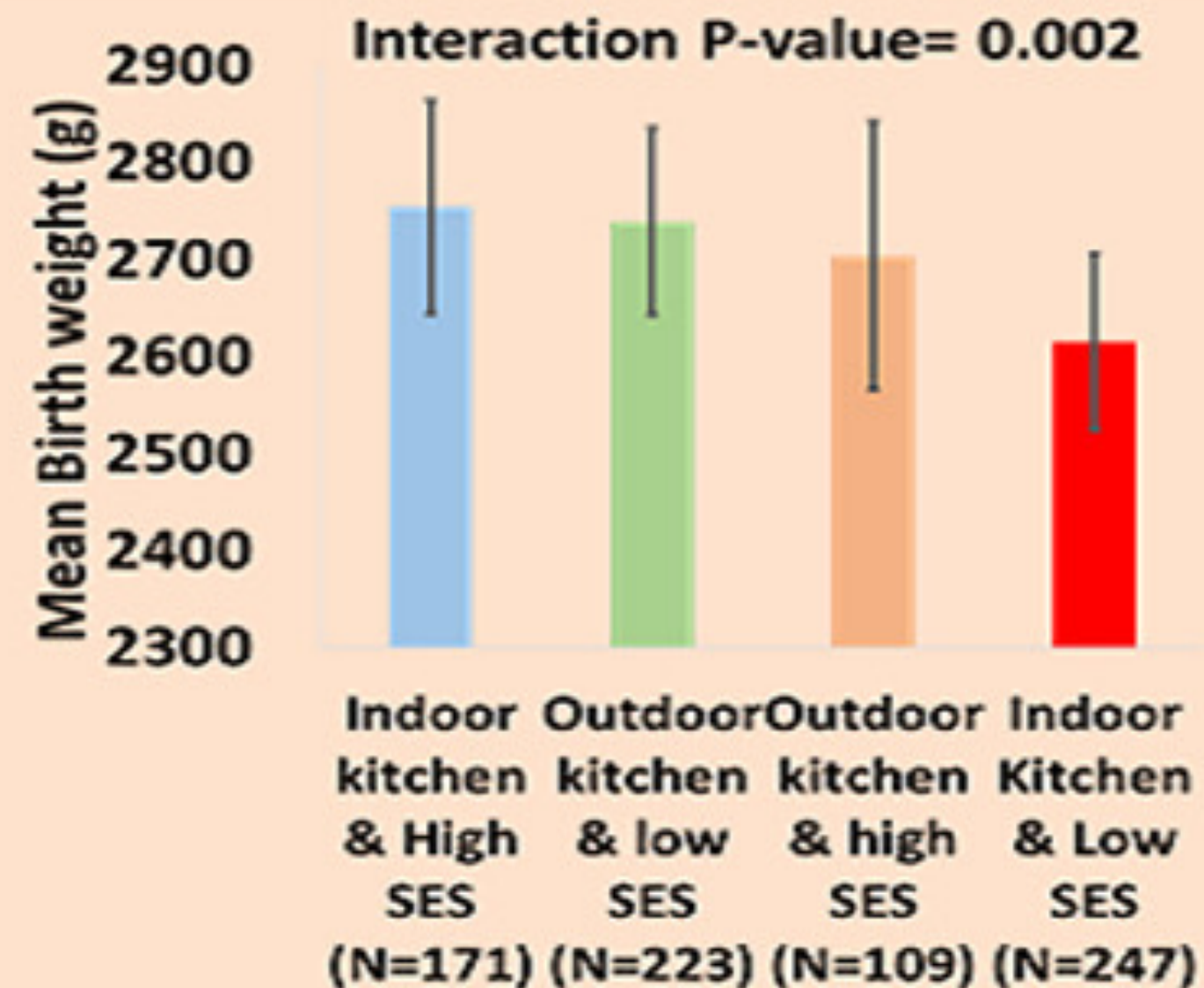


94% used biomass fuel

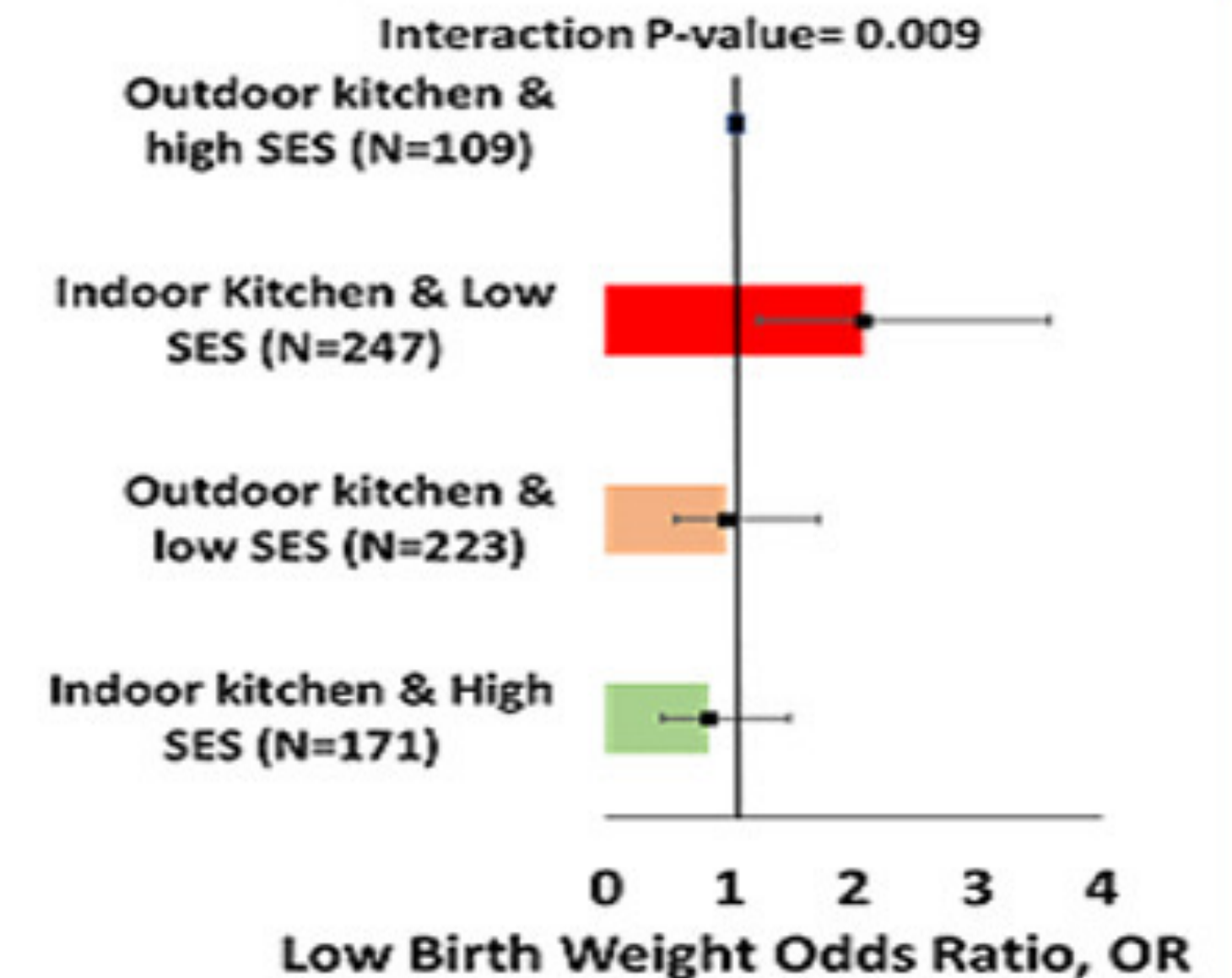


58% indoor kitchen

Result



Result



Science of The Total Environment

Nusrat Jabin, Muhammad T. Salama, Md Mostafijur Rahman, Tasnia Ishaque Sharna, Meredith Franklin, Anisuddin Ahmed, MA Quaiyum & MA Quaiyum

Social inequality influences the impact of household air pollution on birth outcomes

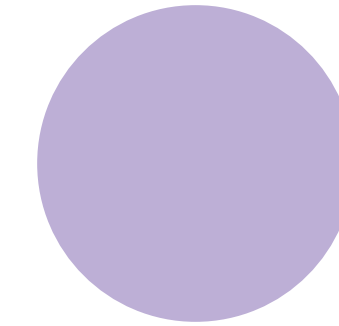
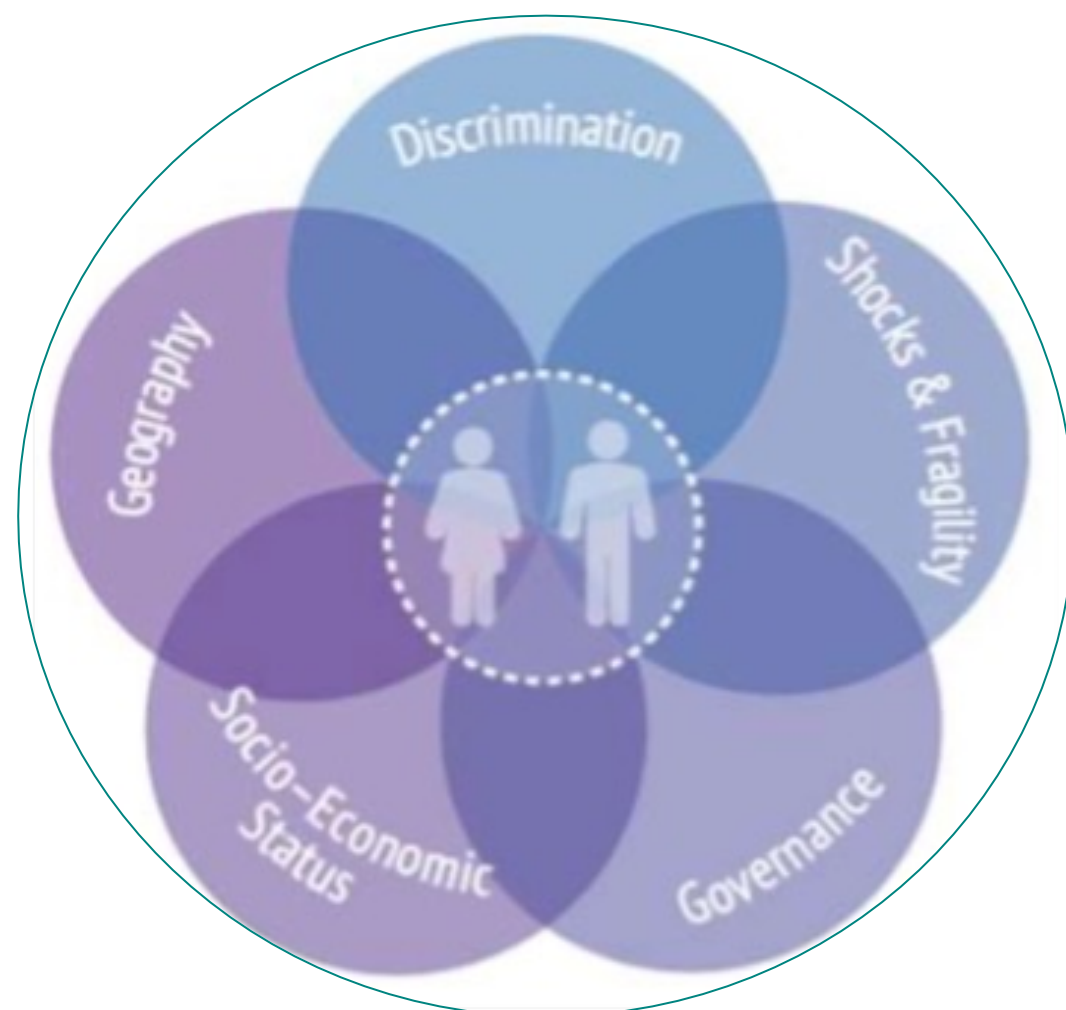
Jabin et al 2022. Social inequality influences the impact of household air pollution on birth outcomes.

<https://doi.org/10.1016/j.scitotenv.2022.153405>

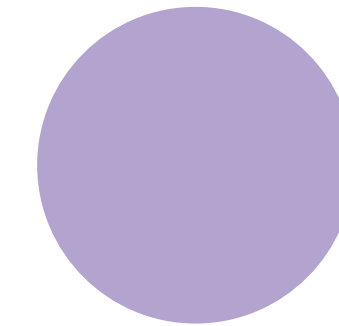
Five Factors

Leave No One Behind

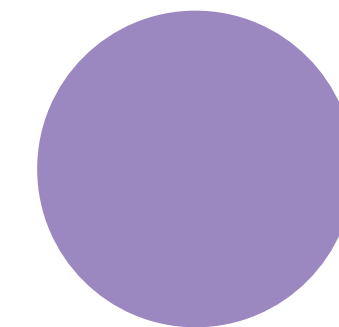
The UNDP has defined five key factors that help to understand who is being left behind and why



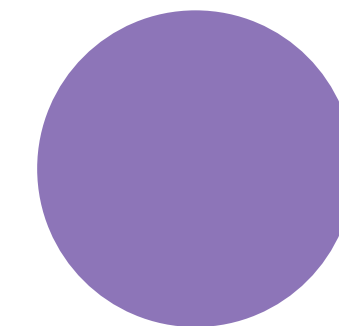
Discrimination



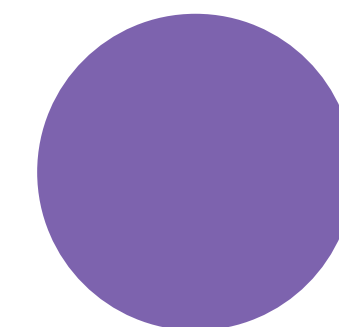
Geography



Governance



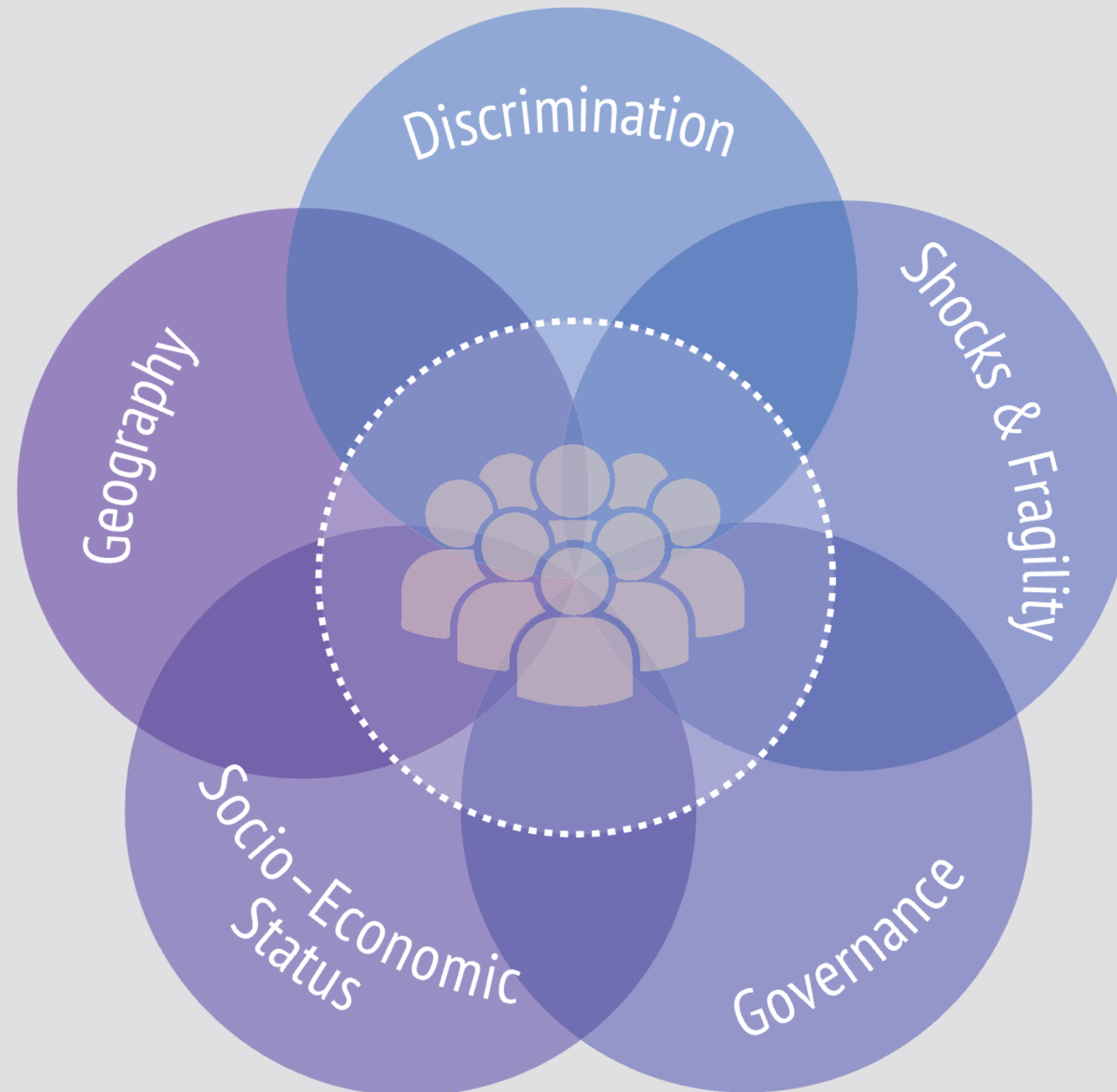
Socio-economic status



Shocks and Fragility



People get left behind when they lack the choices and opportunities required to participate and benefit from development progress. All persons living in extreme poverty, in any form, are left behind, together with those enduring disadvantage(s) that deny or limit their choices and opportunities relative to others in society.



All disadvantages and deprivations that leave people behind should be considered across five factors:

Discrimination

Exclusion, bias or mistreatment based on some aspect of a person's identity (ascribed or assumed) including, but not limited to gender, ethnicity, age, class, disability, sexual orientation, religion, nationality and indigenous or migratory status;

Geography

Physical isolation, vulnerability, deprivation or inequity based on a person's area of residence;

Governance

Global, national and/or sub-national institutions that are ineffective, unjust, exclusive, corrupt, unaccountable and/or unresponsive; and/or laws, policies and budgets that are inequitable, discriminatory or regressive (including taxes and expenditures);

Socio-economic status

Disadvantages in terms of income, wealth, life expectancy, educational attainment or chances to stay healthy, be well-nourished, be educated; and access to energy, clean water and sanitation, social protection, financial services, vocational training etc.; and

Shocks and fragility

Vulnerability and exposure to the effects of climate change, natural hazards, violence, conflict, displacement, health emergencies, economic downturns and other types of shocks.

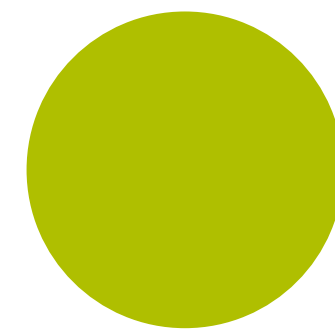


"I can't access public transportation. Even if someone offers to take me out, I can at most stay outside for two hours before returning home, because there aren't any bathrooms accessible. I'm an archery athlete, and often compete in other countries. When I go abroad, I have to suffer on planes for over ten hours. The bathrooms in the airplanes are too narrow." China.

Three Levers

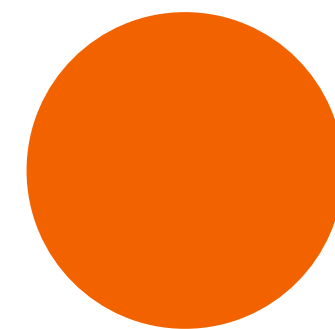
Leave No One Behind

The UNDP defines three mutually reinforcing “levers” that are required to ensure that no one is left behind



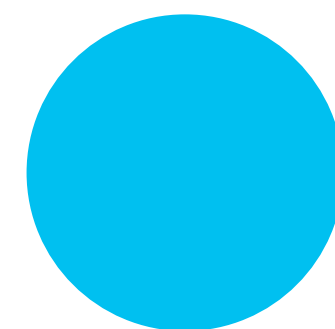
EXAMINE

disaggregated and people driven data and information



EMPOWER

civic engagement and voice



ENACT

integrated, equity-focused SDG policies, interventions, and budgets



Who has the role of ensuring inclusivity?

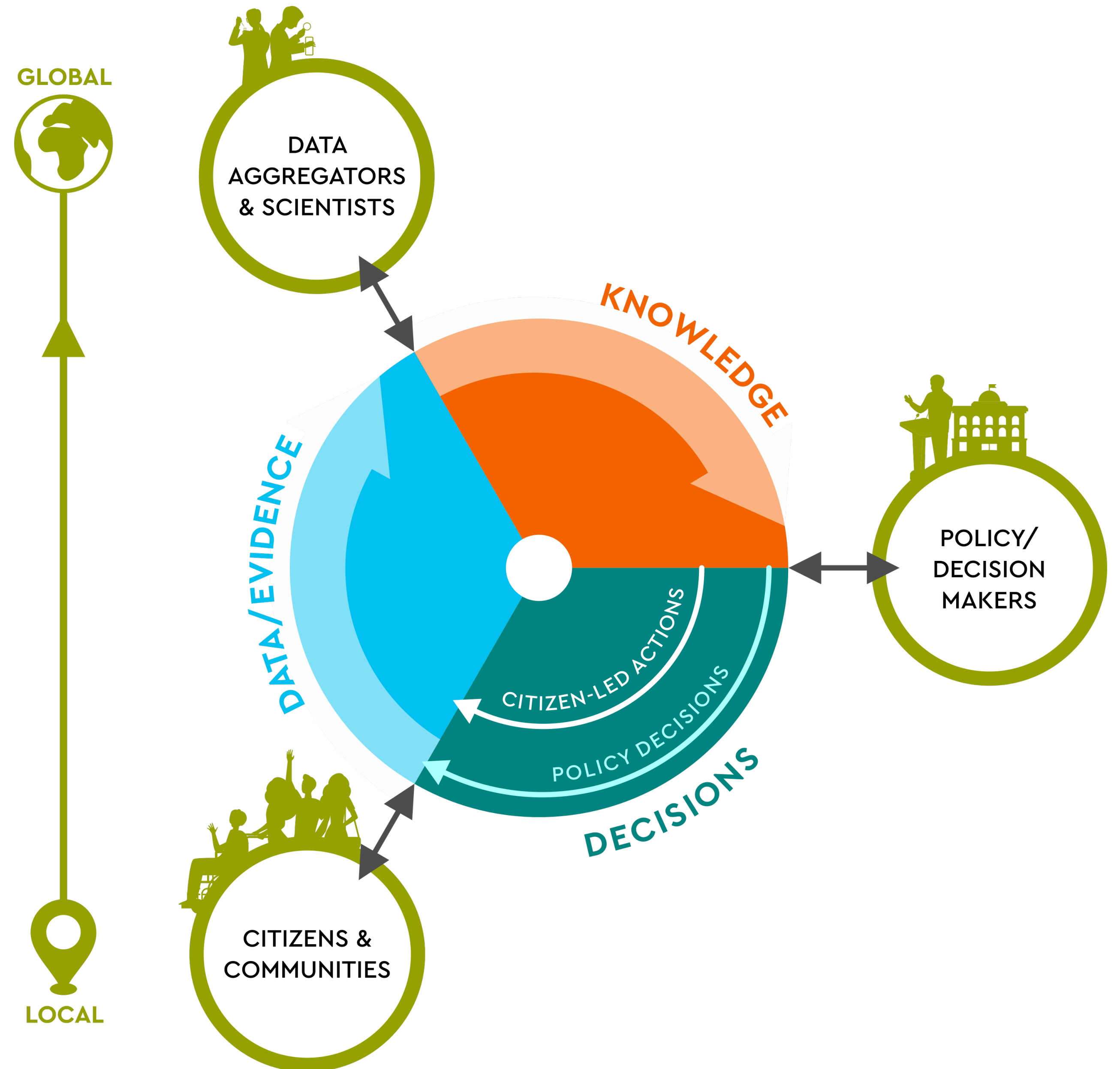
...and that no one is left behind?



Diverse Actors

Action-taking partners in CitiObs

The satellite of actors throughout the CitiObs project includes not only ourselves within the consortium, but also other local actors such as scientists, policy and decision makers, and community leaders.



Equality

Treats everybody the **same**, regardless of individual differences

Equity

Acknowledges and responds to **difference** by treating people **proportionately** to their needs

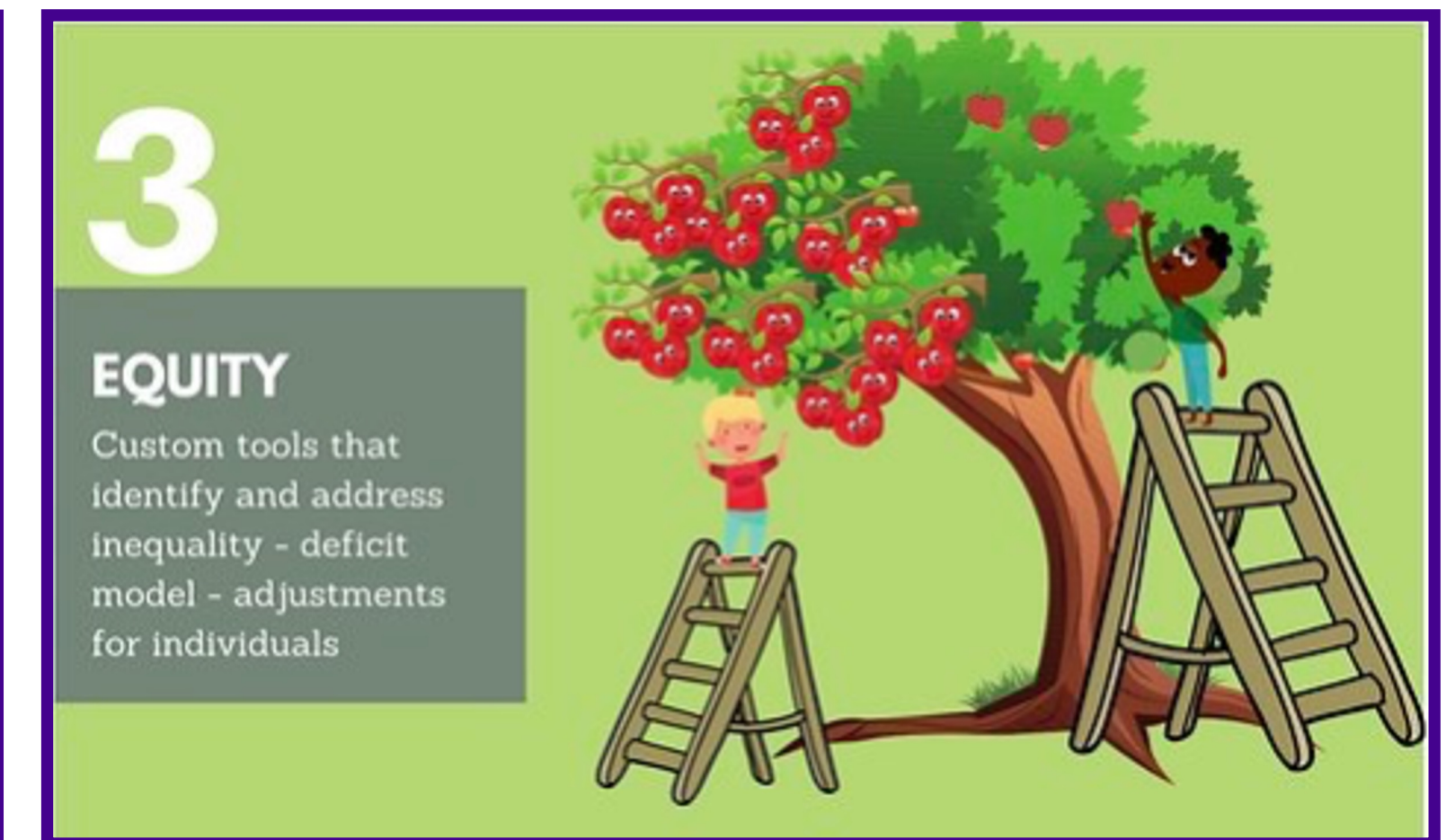
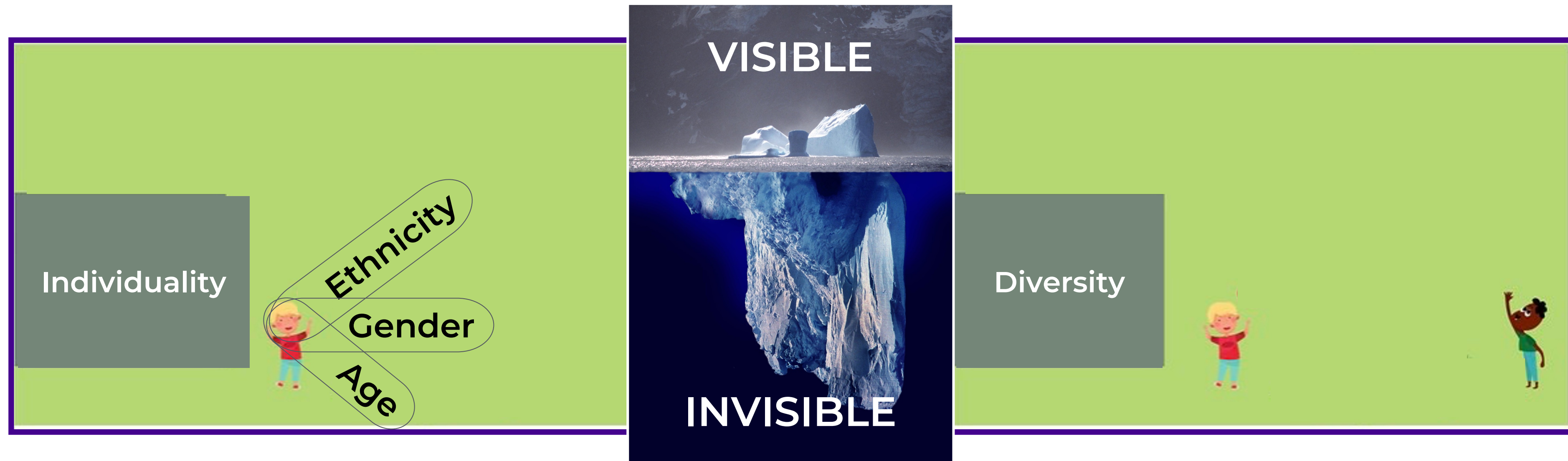


Image adapted from www.bath.ac.uk

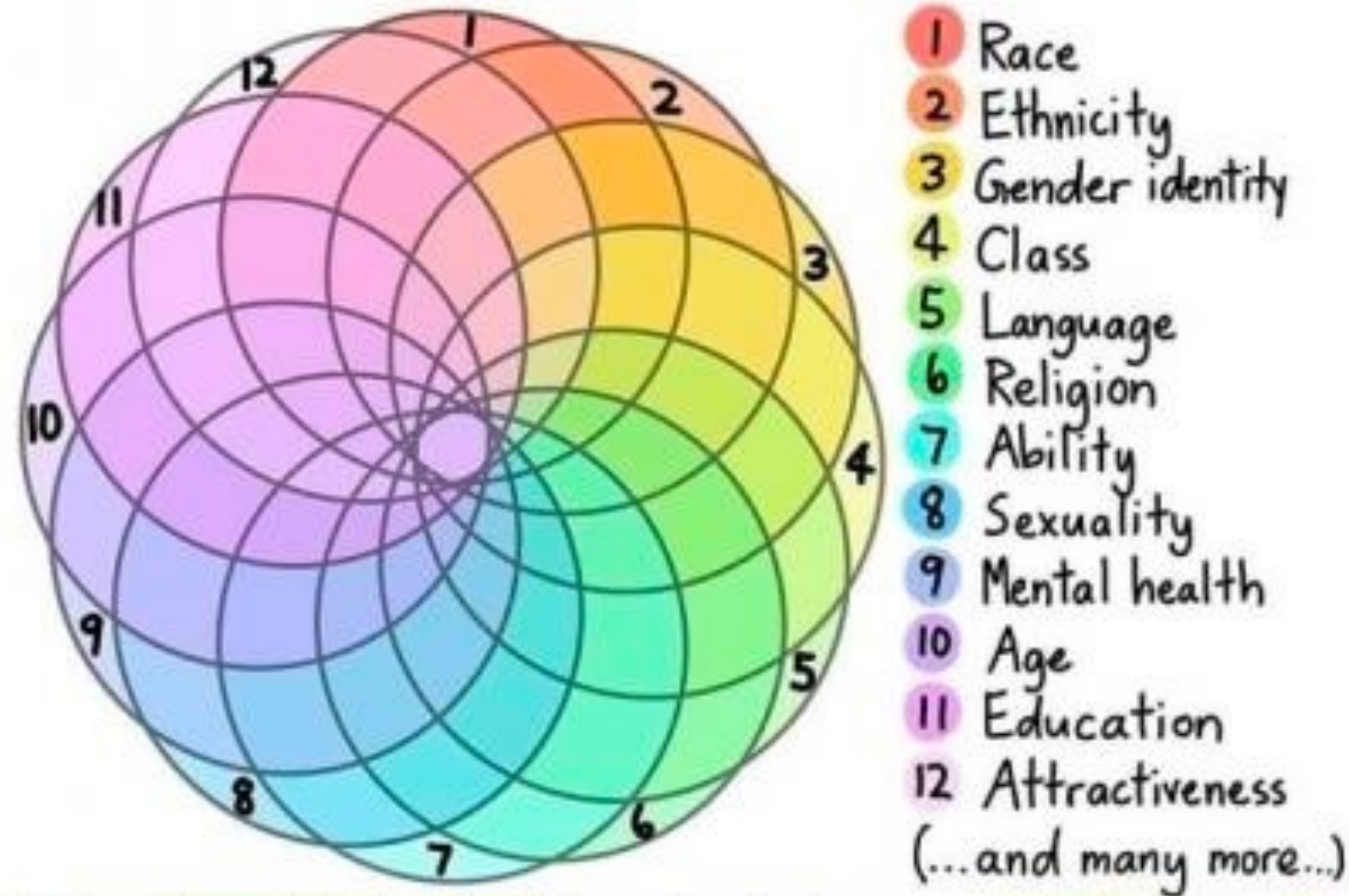


What is diverse about this group?

“Cultural **differences in values, beliefs, and behaviors** learned and shared by groups of interacting people defined by nationality, ethnicity, gender, age, physical characteristics, sexual orientation, economic status, education, profession, religion, organizational affiliation, and any other grouping that generates **identifiable patterns**”

(Bennett, 2004)

INTERSECTIONALITY

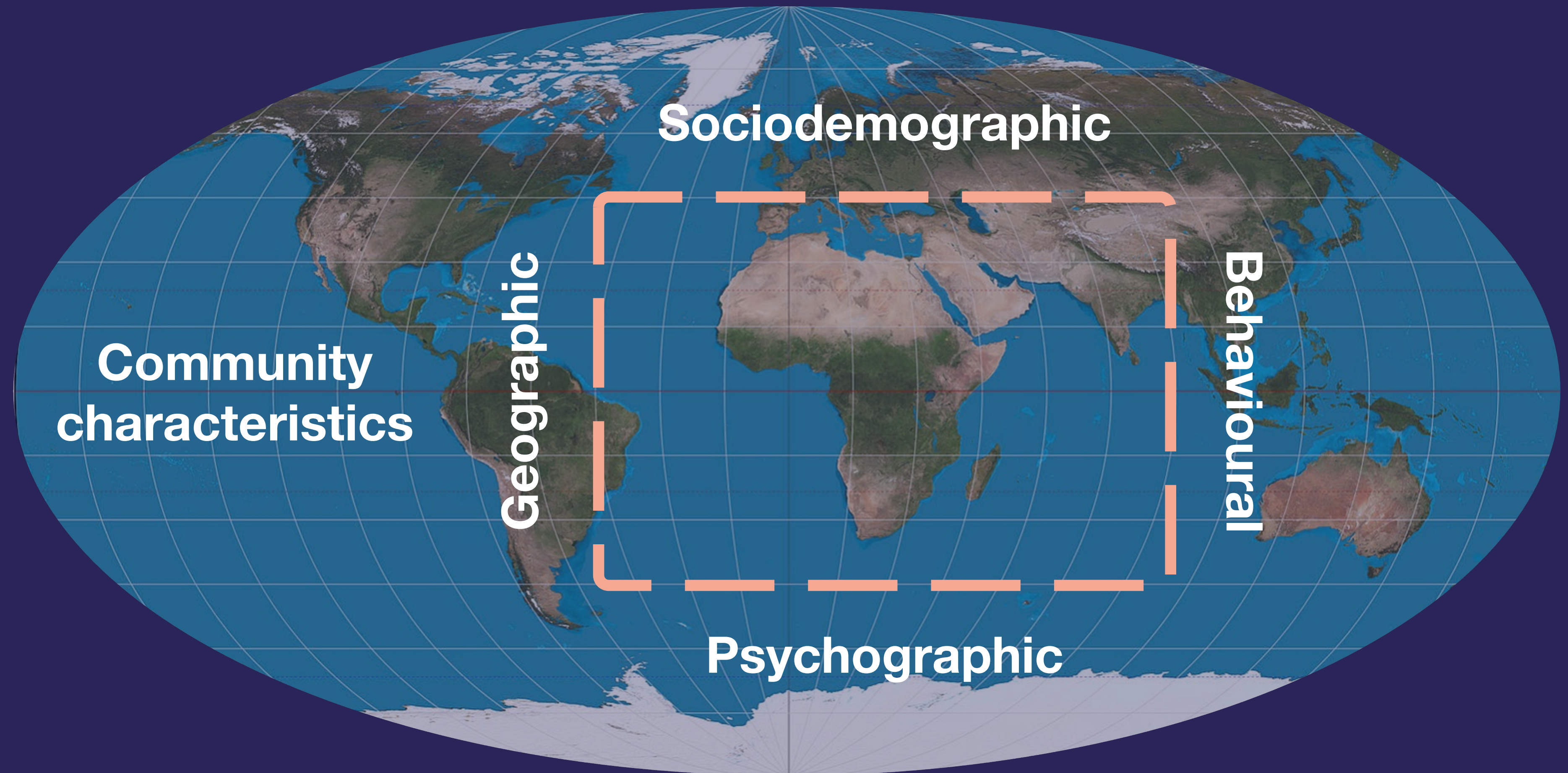


Intersectionality is a lens through which you can see where power comes and collides, where it locks and intersects. It is the acknowledgement that everyone has their own unique experiences of discrimination and privilege.

— Kimberlé Crenshaw —

A diverse world

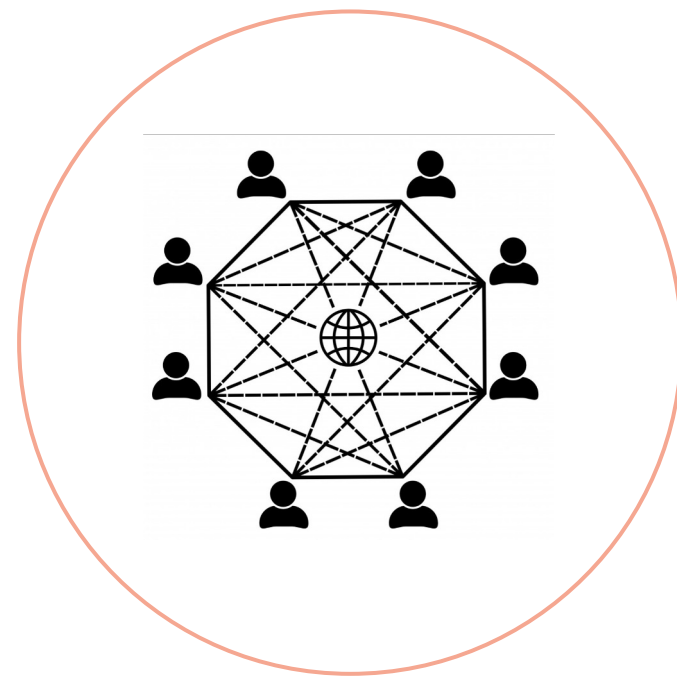
Minority
Marginalised
Underserved



Audience segments: Metag & Schäfer (2018)

Geographic groups (Where)	Demographic groups (Who they are)	Behavioural groups (What they do)	Cognitive groups (Why they do it)
<ul style="list-style-type: none"> • Country • Hemisphere • Latitude • Urban • Rural • City • Country ... 	<ul style="list-style-type: none"> • Age • Gender • Family life cycle • Race • Language • Ethnicity • Sexual orientation • Qualification • SES • Marital status • Employment • Religion • Income • Education ... 	<ul style="list-style-type: none"> • Activities(!) • Lifestyle(!) • Motivated by the same occasions (e.g. pandemic) • Usage (frequency of interaction) • Loyalty (support for science) • How science benefits them ... 	<ul style="list-style-type: none"> • Personality • Activities(!) • Lifestyle(!) • Social Status • Interests • Opinions • Attitudes • Values ...

Levels of cultural diversity^[1]



Society and policy acknowledges, respects and incorporates the varied characteristics of multiple cultures (cultural pluralism)



Organisations embed practices and routines that are considerate of diverse cultural characteristics



Individuals are considerate of or responsive to diverse cultural characteristics

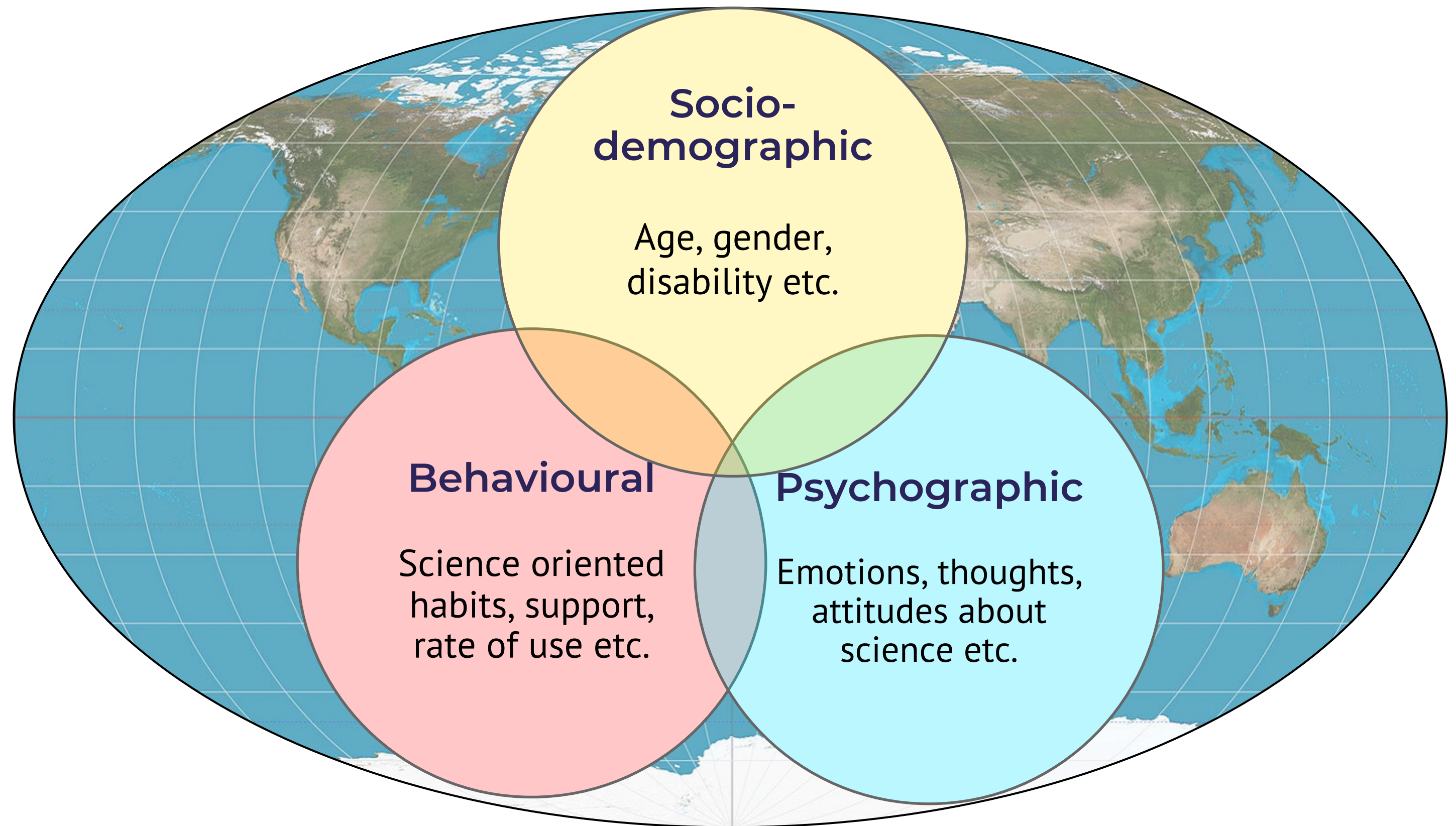
“As diversity increases, people paradoxically perceive social groups as more similar”

(Bai, 2020)

Community profiles: It's complicated!

“It is important to remember that **categories only serve the purpose of classification**; in the real world, differences between these categories are blurred. **Diversity is dynamic.**”

de Anca and Aragon (2018)

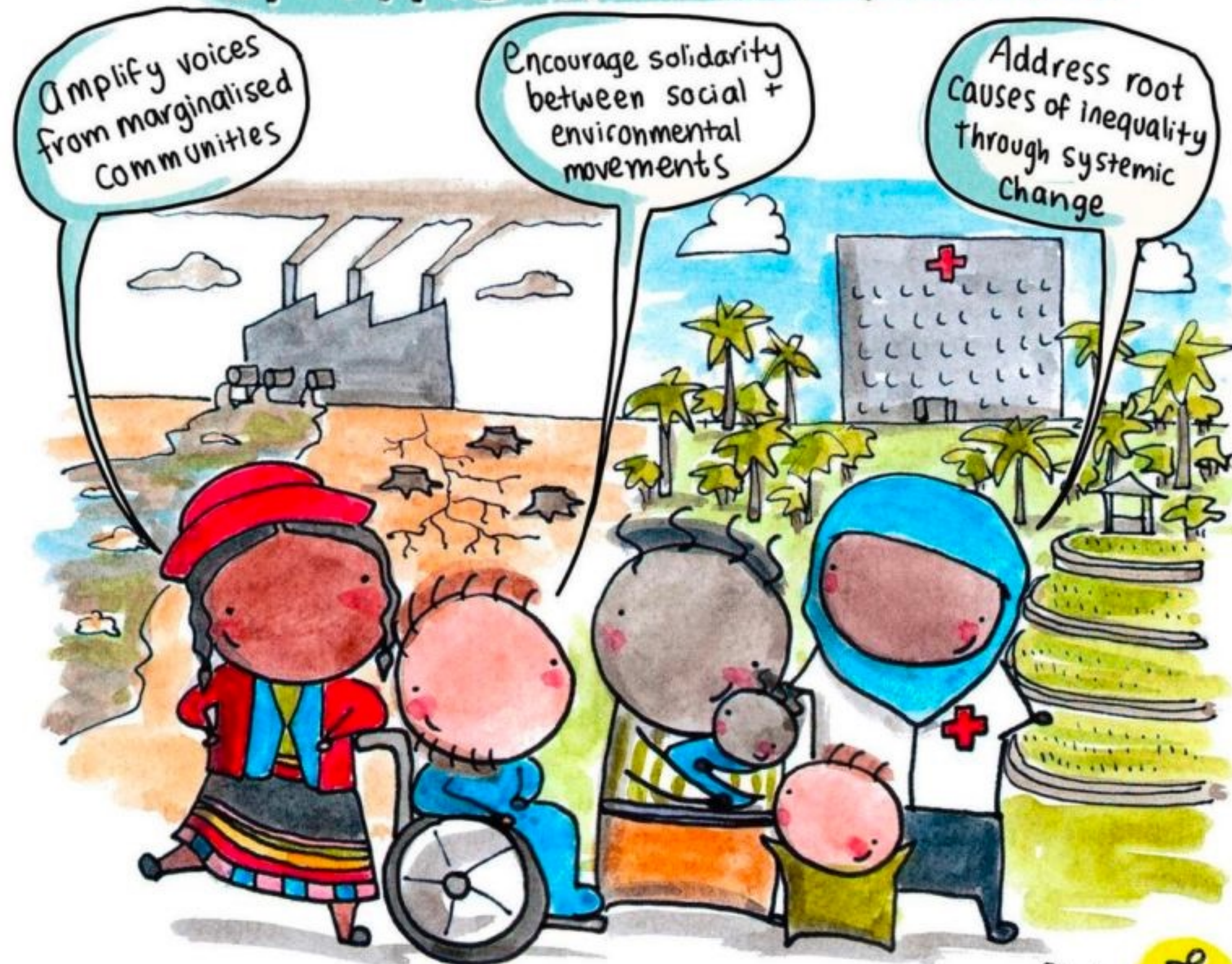


Practical Recommendations on Reaching Underserved Communities

Humm and Schrögel (2020)

1. Start With Listening, be responsive and meet people on their terms
2. Reduce the Distance and Be Accessible, use language common to audience
3. Be Relevant for Everyday Life; bring theory to practice
4. Go Where People Are; to where they prefer
5. Cooperation Is Key, with local stakeholders or target group members
6. Mind the “Openness Paradox”, a basic agenda can provide direction for participants to engage
7. Implement Long-Term Activities. Local groups could start projects to favour longevity

INTERSECTIONAL ENVIRONMENTALISM



brenna_quinlan

@brenna-quinlan

Exclusion





Exclusion = removal of barriers?

“A barriers approach does little to explain the **complexity involved** in social exclusion from science communication, not least how **multiple barriers might intersect** and by foregrounding a focus on barriers, questions of **power, dominance** and **domination** recede into the background.”

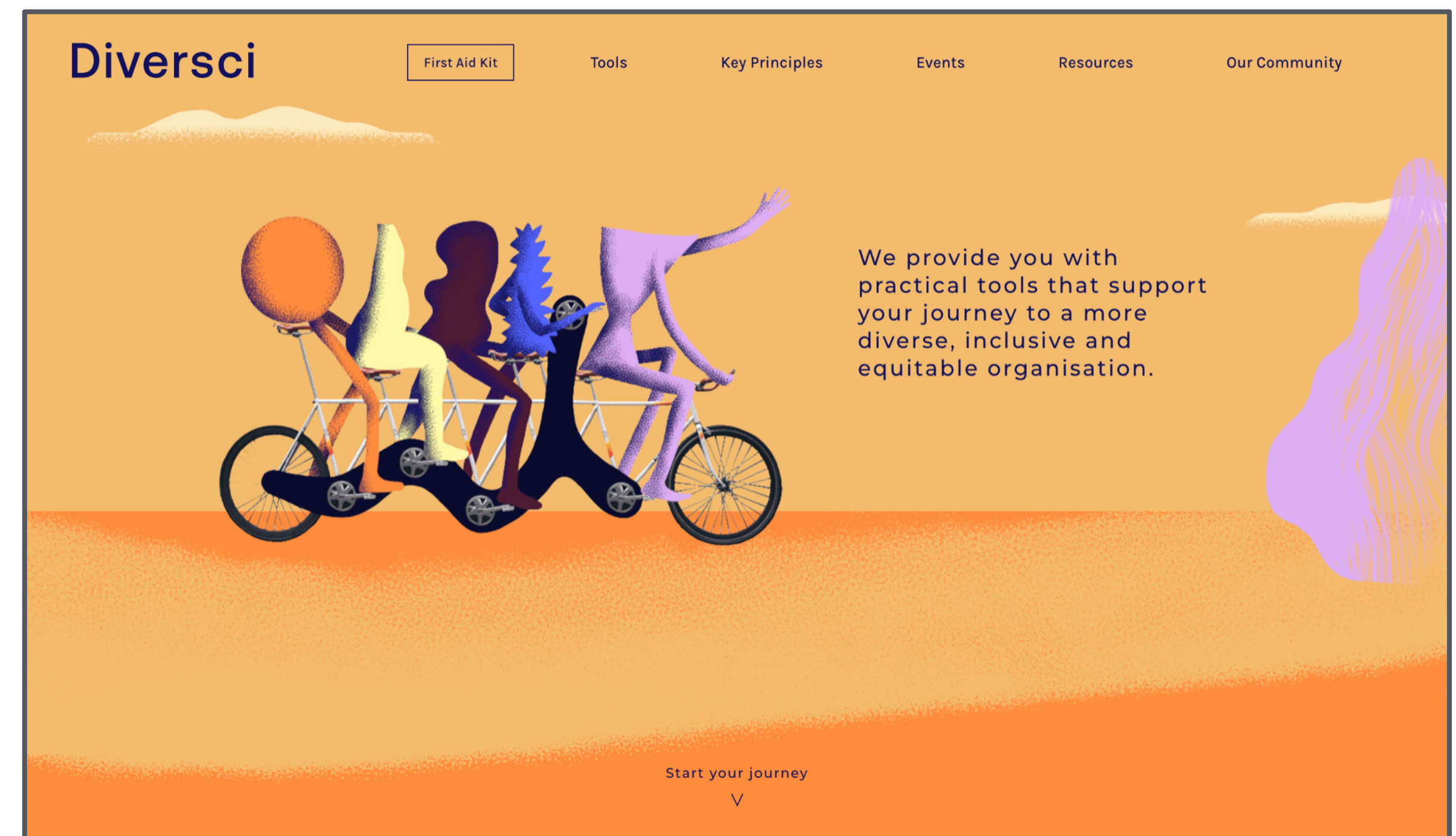
Dawson (2014)

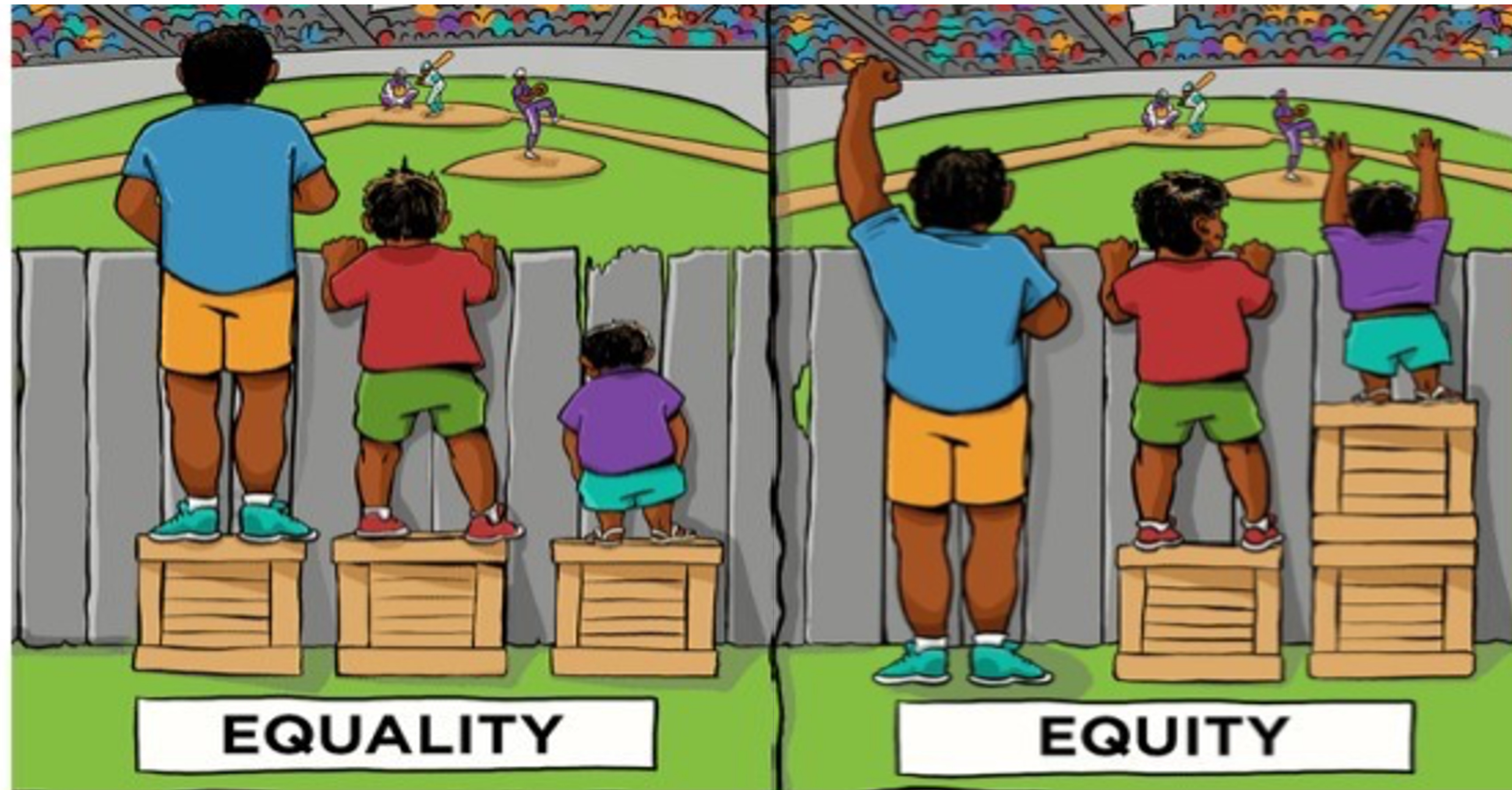
Inclusion

“Based on **change and acceptance**, inclusion is an **equitable** and **participatory** approach that creates the condition of **accessibility** that fits **everyone's needs, requirements and preferences**, so all can belong...

...Inclusion is not forced on people and participation is a choice, where **every individual or group** is welcomed, respected, supported and valued”

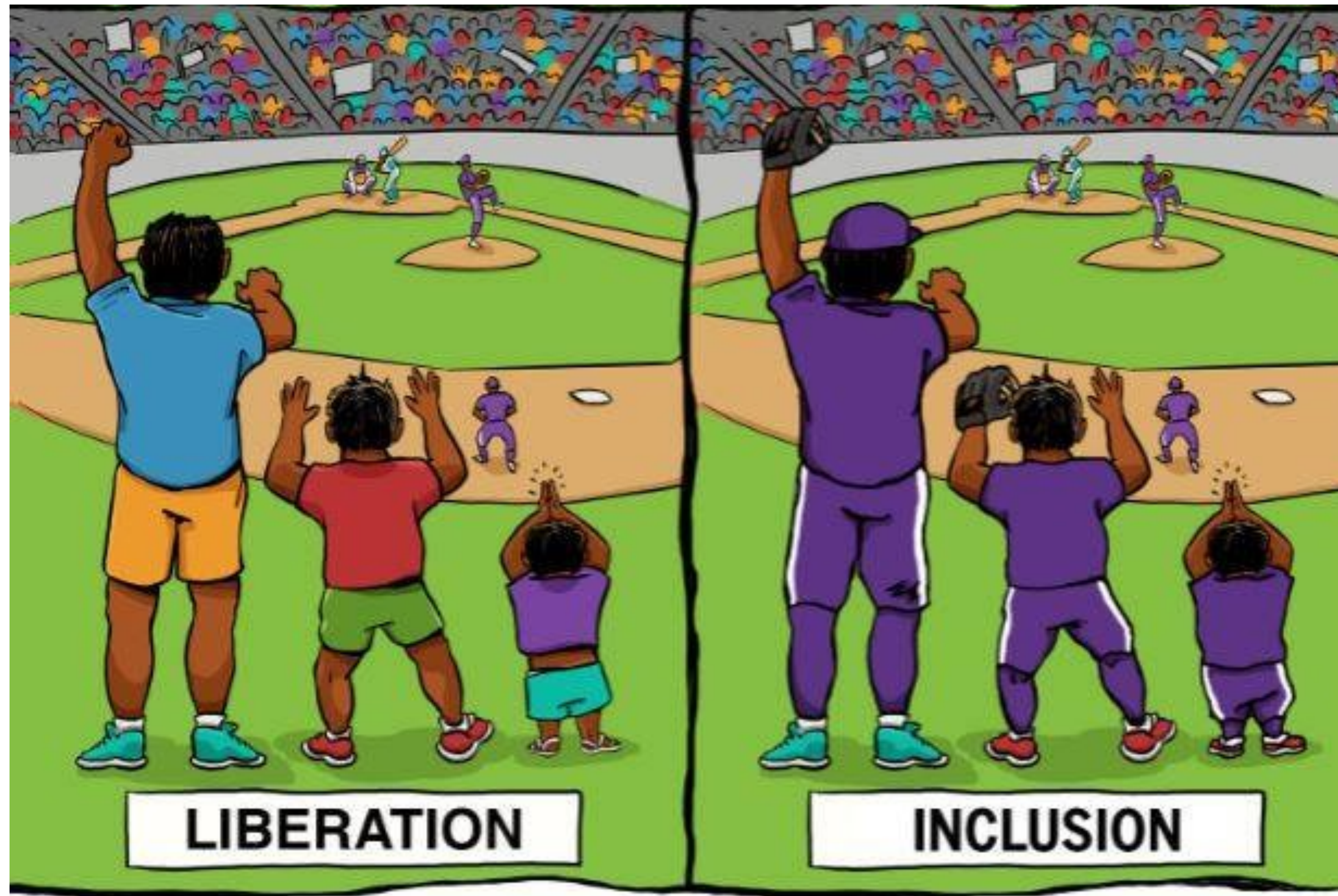
Diversci (2022)





Treats everybody the **same**,
regardless of individual
differences

Acknowledges and responds
to **difference** by treating
people **proportionately** to
their needs



Removes the **barriers** that exacerbate individual differences

Celebrates **differences** and enables **participation** by giving everyone a unique role to play

1

INEQUALITY

Unequal access to opportunities



2

EQUALITY?

Evenly distributed tools and assistance



3

EQUITY

Custom tools that identify and address inequality - deficit model - adjustments for individuals



4

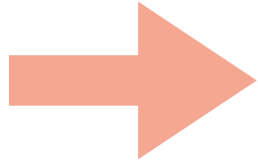
JUSTICE

Fixing the systems to offer equal access to both tools and opportunities



Inclusion through diversity, but not just of people!

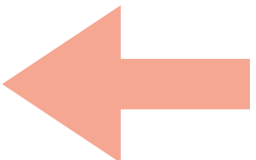
Academia



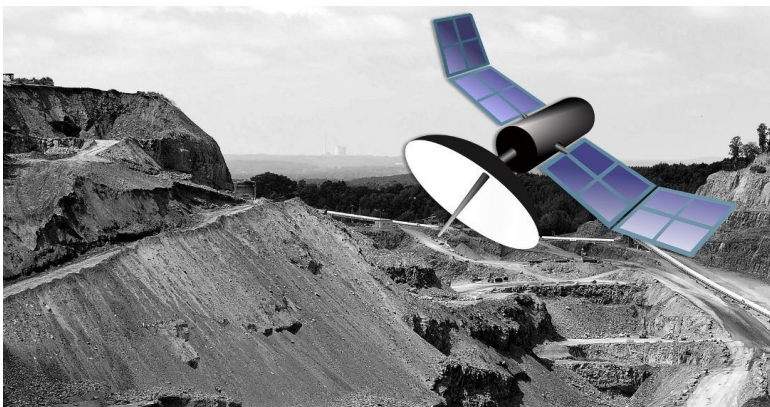
Policy



Local Knowledge



Community



Inclusive Science Communication (ISC)^[1]



“(ISC) departs from traditional science communication practices by **prioritizing inclusion, equity, and intersectionality** as both **central parts of the process and as desired outcomes**”

DiCenzo et al (2021)

Intentionality

Considers goals, audiences and processes to support diverse social identities

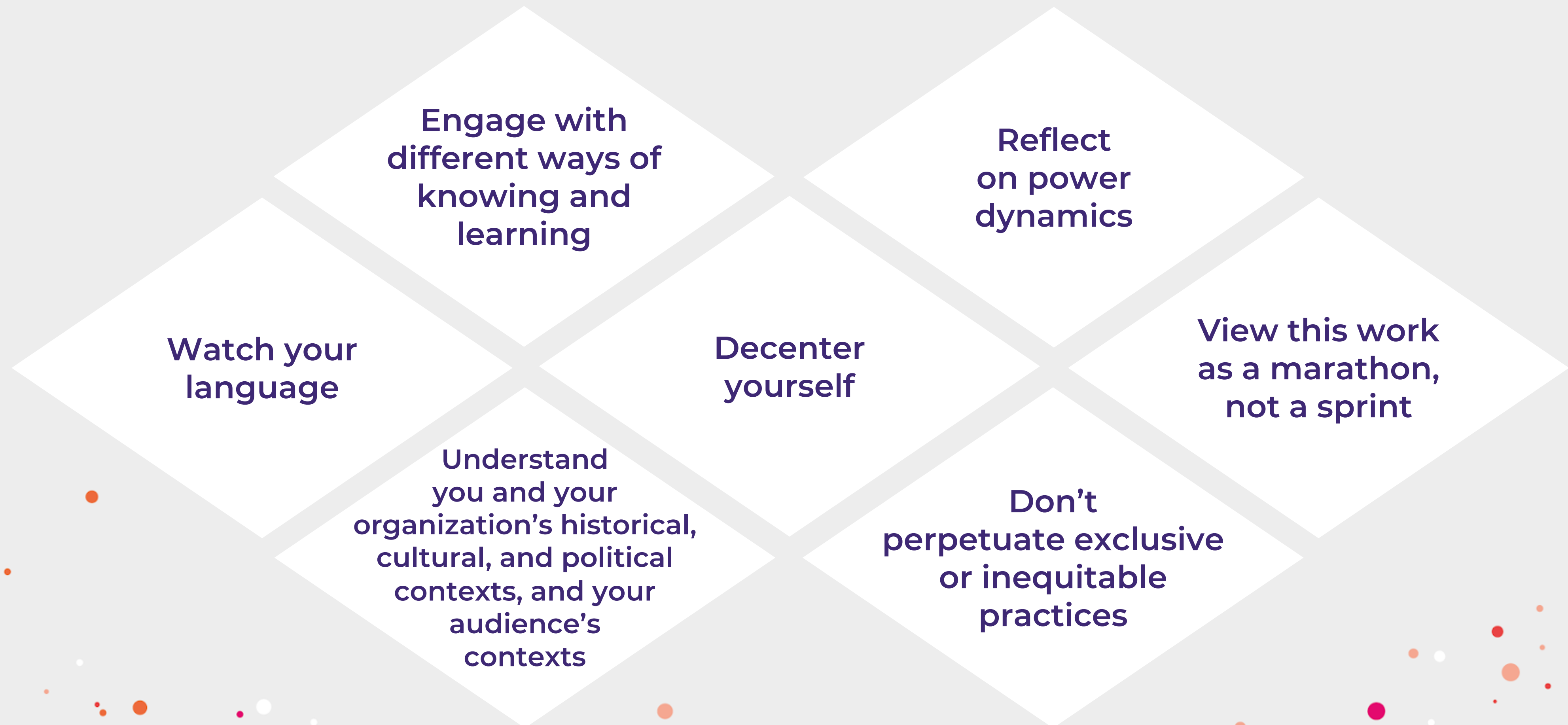
Reciprocity

Between audience and communicator. Co-creating benefits for both

Reflexivity

Thinking systematically on own practices, allowing adaptation as needed

Inclusion: Guide from ISC starter kit^[1]



Many of these slides came from the workshop materials developed in the EU-funded project:

GlobalSCAPE

The principal aim of GlobalSCAPE was to generate a detailed picture of science communication in a global context, with attention for lesser-heard voices: the science communicators working in non-western countries and in regions where taking stock of science communication is particularly difficult.



This project has received funding from the European Union's Horizon 2020 Research and Innovation programme under grant agreement No. 101006436

