



6TH INTERNATIONAL CLIMATE CHANGE ADAPTATION CONFERENCE

5 OCT - 8 OCT 2021 | NEW DELHI

Pre-Conference Day: 4 Oct 2021

Pre-Conference Webinar Series

Challenges of Adaptation Metrics: IPAM's Proposed Framework

27 May 2021 | 4:30 pm IST

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Webinar Agenda



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President of the General Council on
Agriculture Development



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IPAM Secretariat/
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IPAM Tools & Techniques
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The African Scientific Research and Innovation Council

Agenda

- Keynote: Challenges and opportunities in Adaptation Metrics
- Introduction to IPAM
- What is '**Adaptation Metrics Mapping and Evaluation**' (AMME) and why is it needed?
- Panel Discussion
- Breakout sessions
- Next steps

Keynote

Challenges of Adaptation Metrics: IPAM's Proposed Framework

.....

Keynote

Pr. Mohamed AIT KADI

Chair of AAA Scientific Committee

May, 27, 2021



His Majesty King Mohammed VI



COP of ACTION

Translating progress achieved in Paris, COP 21, in concrete terms

COP for AFRICA

Providing a unique opportunity to showcase actions for and in Africa

Marrakech Proclamation

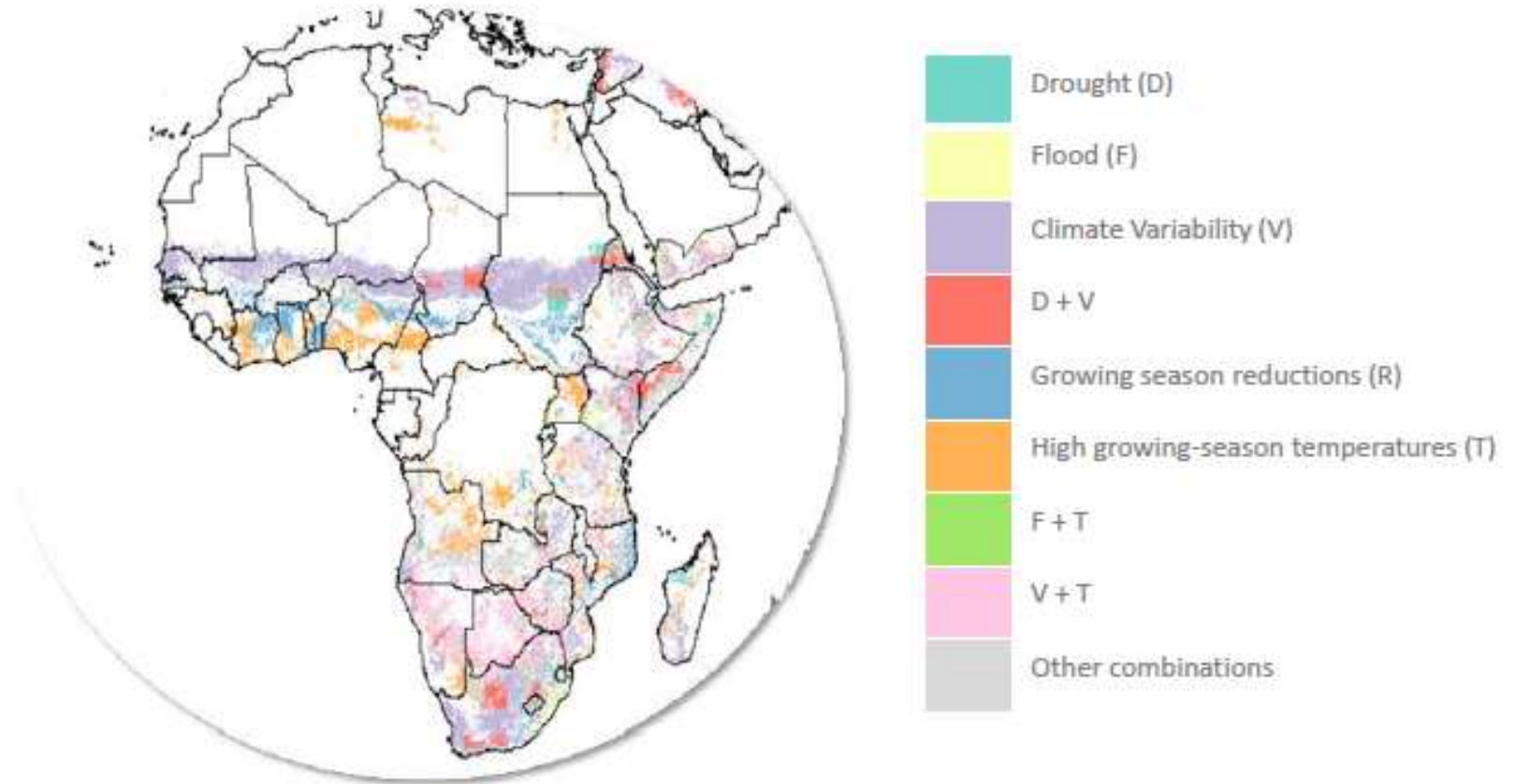


« We Heads of state, Governments and delegations, gathered in Marrakech, on African soil (..) call for all parties to strengthen and support efforts to eradicate poverty, ensure food security, and **to take stringent action to deal with climate change challenges in agriculture.**»



The challenge for Africa

- Agriculture is central to livelihoods
- Rising numbers of undernourished people
- Slowdown in productivity growth
- Increasingly frequent food production failures



THE INITIATIVE FOR THE ADAPTATION OF AFRICAN AGRICULTURE IS ARTICULATED AROUND TWO COMPLEMENTARY PILLARS



Advocate for increased funding for Agriculture Adaptation in Africa



Increased funding earmarked for AAA



Monitoring of climate funding channeled towards AAA



Facilitated access to climate funds

Advocacy

AAA

Solutions

Accelerate AAA projects development



Soil management



Agricultural water management



Climate risk management



Financing solutions



UNFCCC Instruments

Technology transfer

Capacity building

South-South cooperation

The AAA initiative is supported by a strong multi-stakeholder coalition and open to others to join

36
COUNTRIES



10
DONORS



30
SCIENTIFIC
INSTITUTIONS



9 COMPANIES



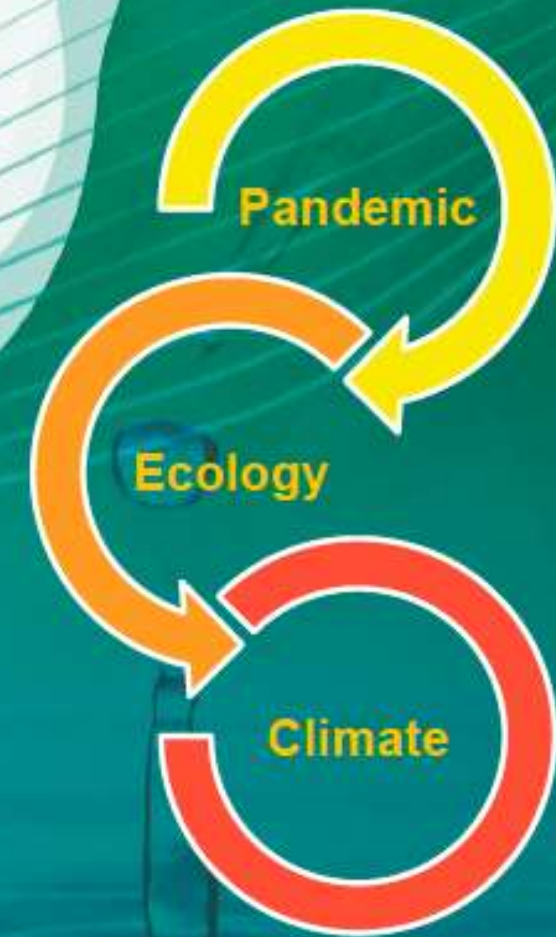
2 NGOS



ONE ACRE FUND



NAVIGATING THE PERFECT STORM





ELINOR OSTROM

2009 Nobel Laureate
in Economic Sciences



“We have never had to deal with problems of the scale facing today’s globally interconnected society. No one knows for sure what will work, so **it is important to build a system that can adapt rapidly”**



Leaders's summit on climat has offered jolt of momentum for Global Action





“Support for adaptation and resilience is a moral, economic and social imperative. Adaptation cannot be the neglected half of the climate equation. That is why I have called for 50 percent of the total of climate finance provided by all donors and multilateral development banks to be allocated to adaptation and resilience.”





IMF IS INCREASING CLIMATE ACTIONS IN ITS ANNUAL COUNTRY ECONOMIC ASSESSMENTS AND WILL INCORPORATE CLIMATE RISKS IN IS FINANCIAL SECTOR ASSESSMENTS.

IMF WILL ALSO SCALE UP CAPACITY DEVELOPMENT TO SUPPORT MEMBER COUNTRIES WITH CLIMATE-RELATED SKILLS AND ANNOUNCED THE LAUNCHING OF A NEW DATA INITIATIVE TO HELP COUNTRIES TRACK CLIMATE RISKS AND POLICIES.



- Governments should assert their leadership role in guiding solutions for building resilience and adapting to climate change including stronger coalitions with the private sector and civil society.
- These coalitions often result in more innovative solutions better suited to tackle the challenges - especially if supported by knowledge, timely information and appropriate metrics which is where **IPAM** makes an important contribution



Finally: the Adaption Challenge is mainly an opportunity...

...to innovate, to invest, to become economically and societally savvy, smart and just, and to ascertain our sustainable future...



Introduction to IPAM

International Platform on Adaptation Metrics

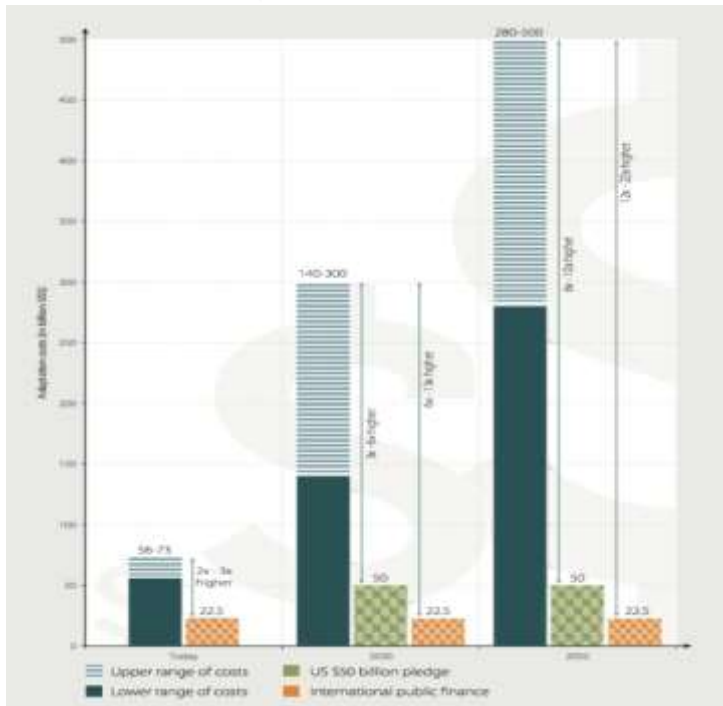
Introduction to IPAM

Karim Anegay, AAA initiative Foundation

IPAM Secretariat



CoP22 : The need for Adaptation Metrics



Source: UNEP, *Adaptation Finance Gap Report*, 2016

- **African Cop = Adaptation CoP**
- **Gap** between **adaptation needs** and realized **adaptation finance**.
- **Key barrier:**
- **lack** of consensus on **metrics** to help governments, businesses, and financial institutions to identify and steer investment.



Nizar Baraka, CoP 22 Scientific Committee President



What is/are Adaptation Metrics? 2016-2017-2018

Three international conferences in Morocco (CoP22, CoP23, CoP24)



Outcomes of the conference series

Sectoral approach

Adaptation Metrics and Techniques Cluster (AMT)

Water, Agriculture and Resilient Cities @um6p.ma, Morocco

Submission by the Kingdom of Morocco to UNFCCC

October 8th, 2016

(b) Item 4, “Further Guidance in relation to the adaptation communication, including, inter alia, as a component of nationally determined contributions, referred to in article 7, paragraphs 10 and 11, of the Paris Agreement”

In the spirit of the implementation of the Paris Agreement, The Kingdom of Morocco would like to emphasize the importance of technical discussions grounded on the concrete needs of Parties in order to facilitate enhanced ambition and delivery on the ground.

In that context, as a contribution to the ongoing work on adaptation communication, the Kingdom of Morocco shares this submission that consists in a report of key elements that emerged from a technical and scientific conference hosted by the Kingdom of Morocco, on September 27th 2016 on the topic of Adaptation Metrics.

International Workshop 2019 (CoP25)



IPAM Committees

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Techniques and Tools



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www.adaptationmetrics.org

IPAM's Objectives

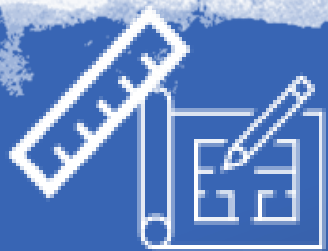
- **Connect** experts, practitioners and decision-makers through the organization of events
- **Promote** capacity building, research exchange and data enhancement, clustering and analysis
- **Develop** approaches, instruments, tools and facilities for the effective finance and policy making for climate adaptation
- Facilitate the **co-design** of metrics = **AMME work program**

What is 'Adaptation Metrics Mapping and Evaluation' (AMME) and why is it needed?

The Challenges of Adaptation Metrics

AMME: A Framework for Mapping and Evaluating Adaptation Metrics

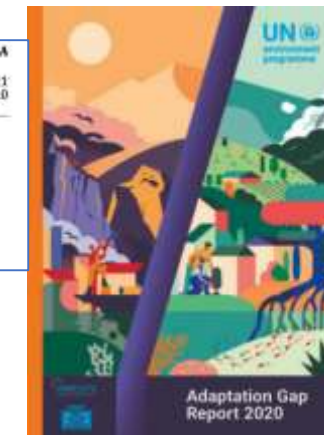
Proposal for discussion



Karl Schultz and Paul Forte
The Higher Ground Foundation

Global context

- Growing recognition of the needs and challenges of adaptation metrics
- Adaptation Gaps – needs vs. finance, implementation, target setting, ESG:
 - Paris Agreement: Global Stock-take; Global Goal on Adaptation; Adaptation Communications, etc.
 - SDGs, Sendai Framework, other international treaties
 - Task Force on Climate-related Financial Disclosures (TCFD)
- IPAM is congruent with these initiatives



www.adaptationmetrics.org

The Adaptation Imperative

Impacts:

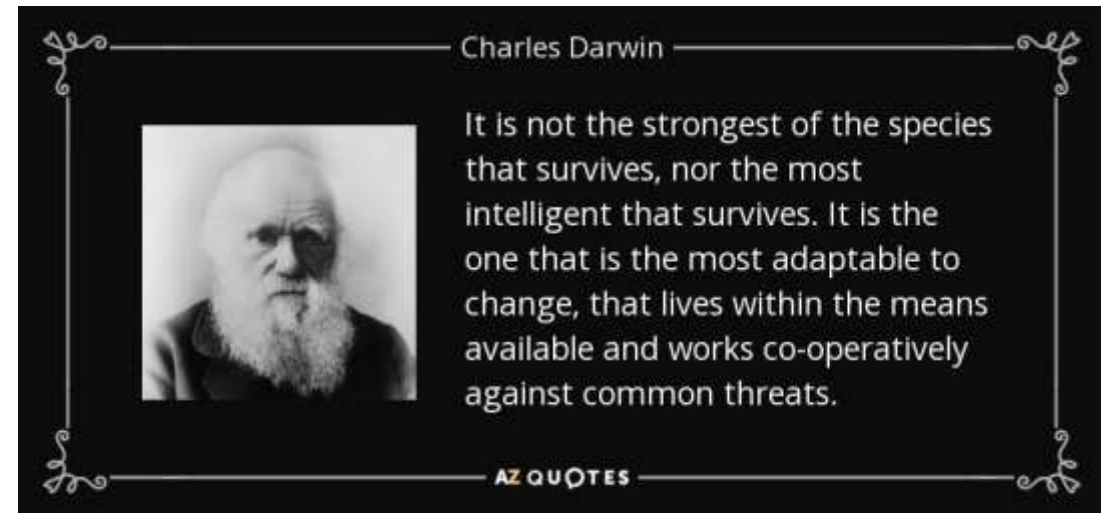
Rising sea level, melting ice, amplified extreme weather events, alteration of many ecosystems, reduced crop productivity, increases in pests and diseases.

Adaptation:

“The process of adjustment to actual or expected climate and its effects.”

International Panel on Climate Change

https://www.ipcc.ch/site/assets/uploads/2018/02/WGIIAR5-AnnexII_FINAL.pdf



What gets measured gets done...?

Metrics:

- Assess vulnerability, risk, resilience or climate impacts
- Track implementation of adaptive responses; monitor and measure adaptation results
- Central to enhancing project efficiency and effectiveness; investment allocation
- Enable comparison of adaptation results between programs, projects and activities

IPAM: Vision and Activities

Vision

To become the reference platform for adaptation metrics and develop tools and techniques that respond to emerging adaptation needs

Activities

- Connecting experts; developing synergies
- Collaborative work programme (AMME)
- Agenda setting on metrics issues

Adaptation Metrics Mapping and Evaluation: AMME

A work programme under development to address challenges of adaptation metrics that underpin decision making including:

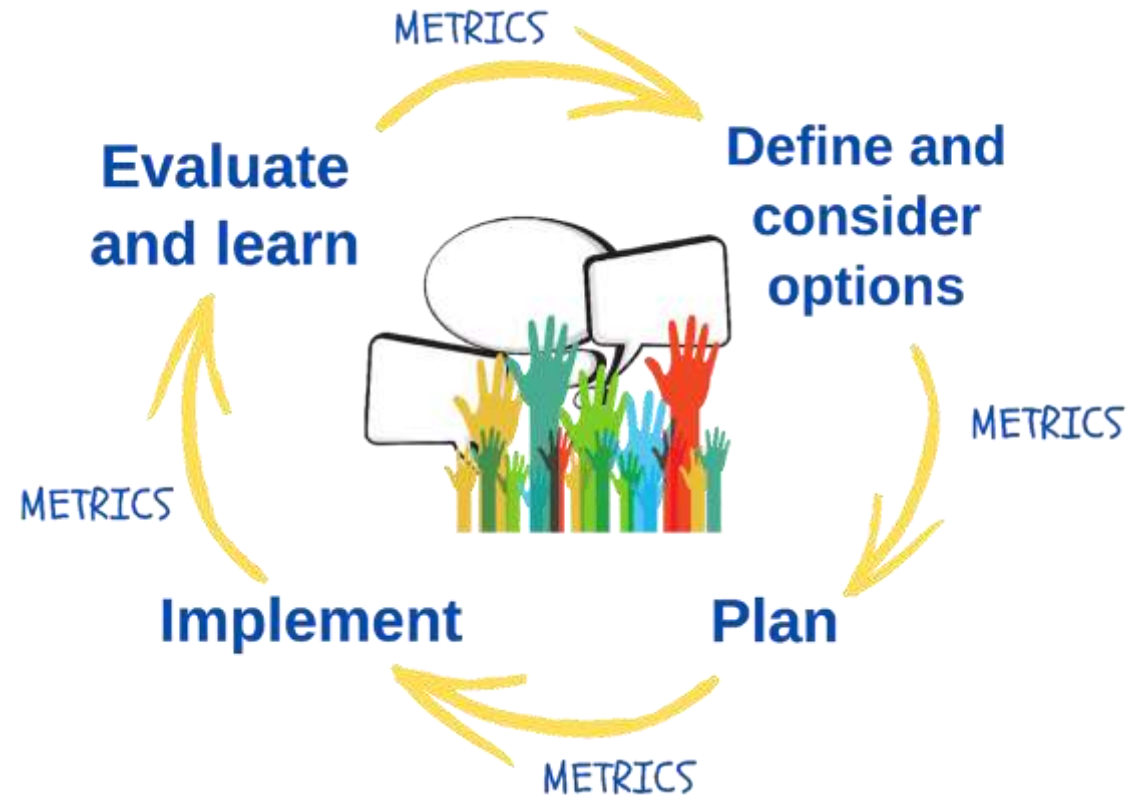
- user need
- taxonomy/ definitions
- systems understanding
- cross sectoral/transversal issues
- time frames, scale, etc.

We are currently developing a framework which will support:

- design and funding of metrics mapping and evaluation projects
- guidance for implementation of those projects

AMME framework: key principles

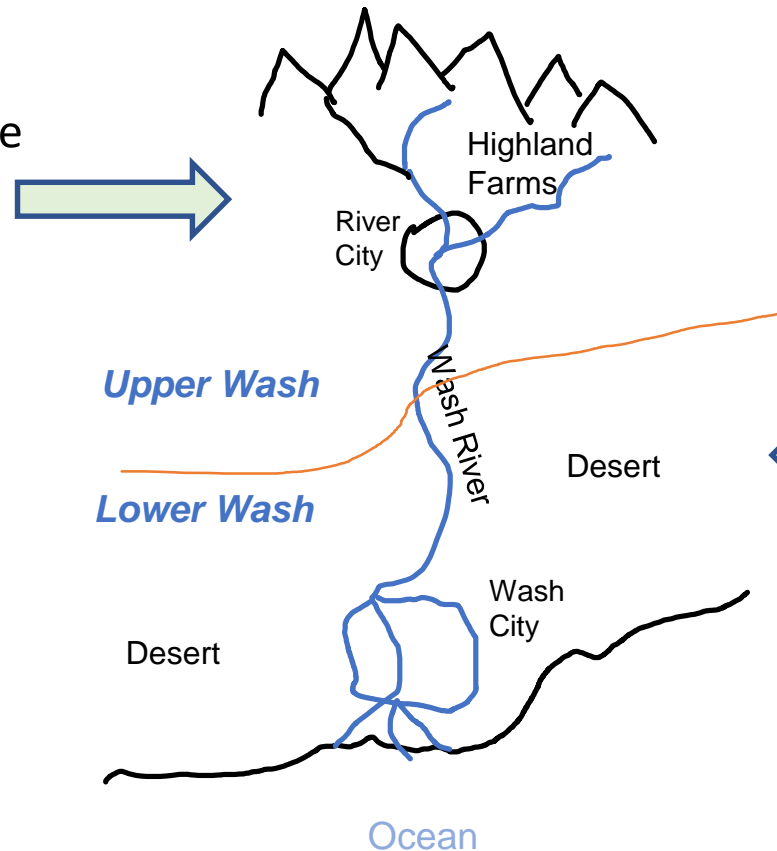
1. User need focus
2. Clear taxonomies/definitions
3. Systems perspectives
4. Information for decision making



Illustrative Scenario – Upper & Lower Wash

Upper Wash

- upstream source; considerable water reserves and precipitation
- wealthy agricultural and services economy, OECD
- one major city and smaller settlements
- increasing droughts and flooding
- environmental pollution



Lower Wash

- coastal inundation
- declining water resources and soil exhaustion
- formerly productive agricultural and fishing economy
- one megalopolis (congestion / pollution)
- increasing drought, reduced water flow
- public health concerns: malaria, cholera

User need focus

The purpose of metrics lies in their use:

- Capacities: access, skill, time and costs
- User requirements
- Communicating metrics between different users

User of Metrics

Water Resource Manager: Upper Wash

Farmer

City Water Resource Department

Water Resource Manager – Lower Wash

City Public Works Department: Drains and Sewers

Coastal Management Authority

Fisheries Management



Water Metrics

Seasonal rainfall and snowfall, groundwater levels, water demand

Rainfall levels and timing, water supplies and pricing, irrigation needs and sourcing

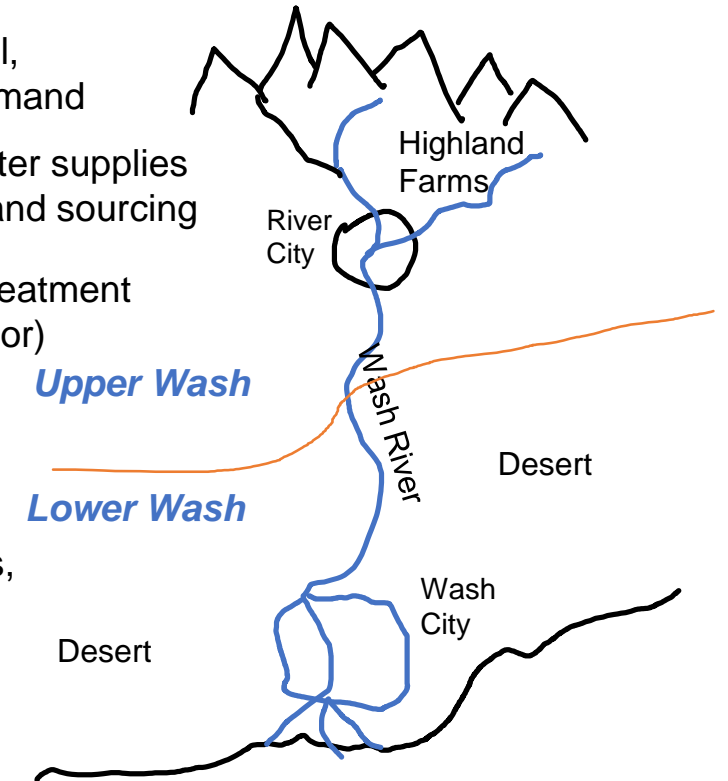
Water supply and qualities, treatment costs, water demand (by sector)

Water inflow, precipitation, ground water, quality, demand

Upstream rainfall/water levels, flood depth/duration, surface/soils, river levels, effluent qualities/quantities, drainage capacities

Storm data, sea level rise, salinity, river flow/quality

Water temperature, nutrients, weather events



IPAM International Platform on Adaptation Metrics

www.adaptationmetrics.org

Clear taxonomies and definitions

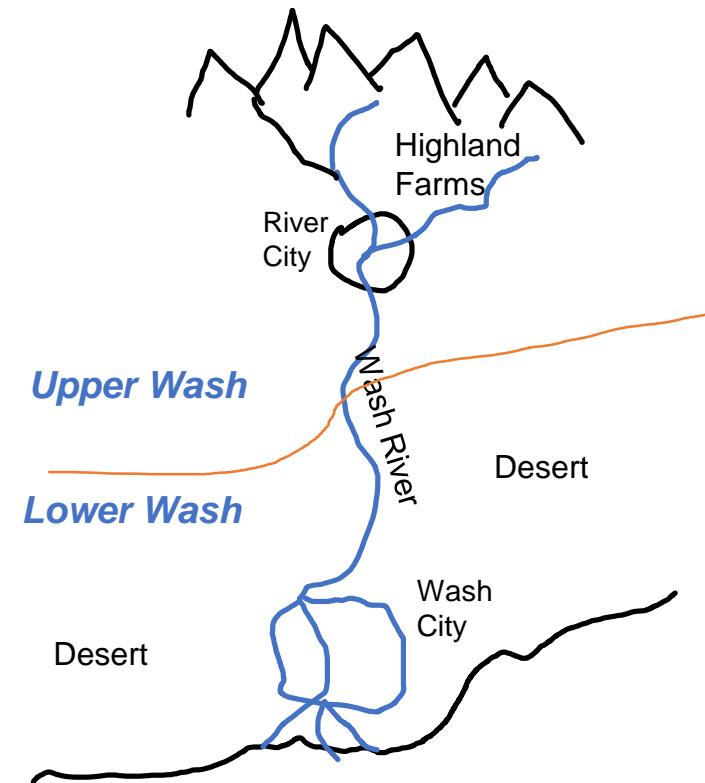
Clarity is needed for adaptation stakeholders to work effectively together:

- Setting boundaries for what is counted, paid for, rewarded
- Avoiding misunderstanding in adaptation planning and management
- Harmonization: aligning and defining metrics and their application

A Taxonomy Case Study: Water Adaptation in Upper and Lower Wash

Both countries offer grants for community level water adaptation, but:

- Upper Wash considers water adaptation to be any increase in water supply capacities
- Lower Wash considers water adaptation to be forward looking, linked to climate change projections, water supply, wastewater, and flood control and coastal erosion.



Taxonomy: a system for naming and organizing things into groups that share similar qualities

Systems perspectives

Metrics need to take account of:

- timescale
- changing definitions
- appropriate/ timely communication
- decision-making purposes and timescales

Water supply

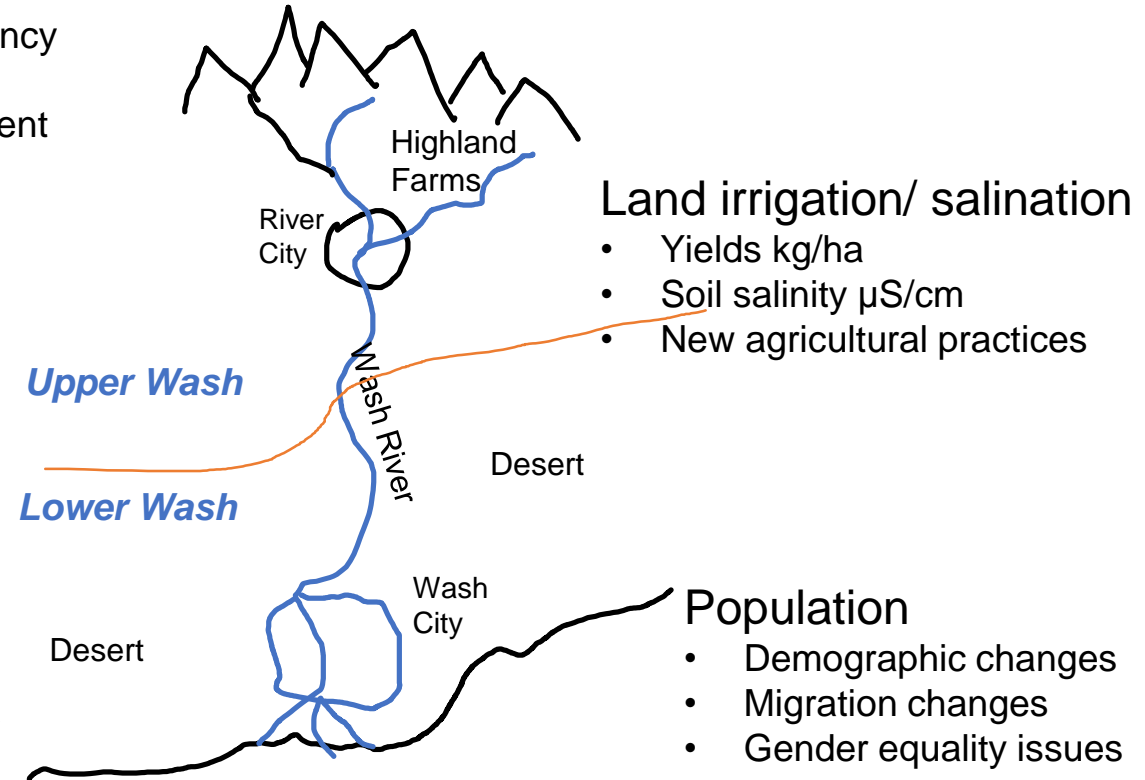
- Precipitation vol/ frequency
- Reservoir / river levels
- Flooding frequency/ extent

Population health

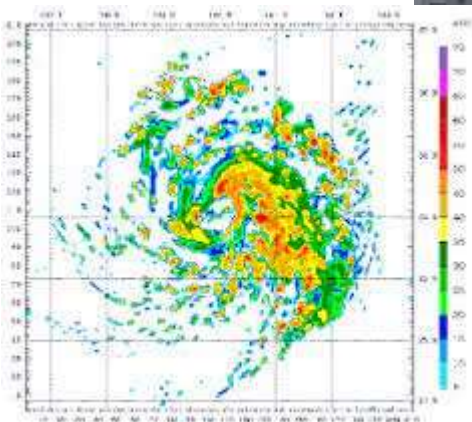
- Cholera incidence/1000
- Pollutants – parts/million

Economic and political impacts

- Agric : urban contribution to economy
- Popn % in education
- Rate of investment in water infrastructure
- Influence of water issues on national/ international politics



Information for decision making



Metrics design

- Simple indices; fit for purpose

Data collection process & technologies

- Surveys; remote telemetry; paper-based

Harmonization

- Composite indicators; QALYS

Evaluation methodologies

- Multicriteria Decision Analysis; Balanced Score Card

Modelling & Foresight

- Operational Research; Futures Literacy; horizon scanning

Decision-making

- Processes, users, evaluation

AMME Framework Principles vs. the alternative...

- The field of Adaptation Metrics is fraught with problems ranging from the intellectual to the practical...
- ...but that's no excuse for saying it's 'too difficult' !
- The focus of IPAM - and the AMME framework - is to promote and develop metrics and their use in response to emerging adaptation needs
- We have outlined the lines along which we're thinking, but it is really important to us to have your feedback on this and become integral to the ongoing development process

Panel Discussion



Moderator:
Dr Anand Patwardhan

Professor, University of Maryland
Co-chair Science Committee, World
Adaptation Science Program



Jean-Pierre Elong Mbassi

Secretary General, United Cities
and Local Governments-Africa



Andreea Nowak

Social Science Researcher,
Consultative Group for
International Agricultural Research



Dr Aditya Bahadur

Principal Researcher at Intl Inst for
Environment & Development,
Adaptation Research Alliance core
development team



Snigdha Garg

Snr Mgr of Research and
Adaptation, C40 Cities Climate
Leadership Group

Panel Discussion: questions discussed

1. What do you see as the key uses (and users) of metrics? Are there any "use cases" missing from the presentation you just heard?
2. How do you address the challenges in metrics of:
 - a) measuring what *can* be measured; rather than what *should* be measured,
 - b) balancing comparability and aggregation with the need to retain context-specific detail. How might these issues affect metrics design and use?

Panelists' response elements

Question 1

- There is no internationally recognized method of evaluation and adaptation metrics space is messy because cluttered with multiple tools serving different purposes. AMME opens up opportunity to bring up order for practitioners, planners, decision-makers, researchers for mapping metrics thus identifying gaps that we should work on filling
- A possible mistake is to consider adaptation in silos and AMME could be an opportunity to stop it and move cross sectoral
- The target (what do we want to monitor and why?) should be clearly defined depending upon users, and use cases also vary whether outcomes, outputs or impacts are monitored
- Local needs in adaptation are always context-specific as is perception of vulnerability and scope and diversity of impacts, and AMME should adopt a learning by doing approach based on pilot case studies
- The concept of co-design was widely approved and it has been proposed to bring up actors of local economy, policymakers at national level, and the research community to agree on data harvesting routines and quality indicators for predictability
- Four main areas of application for metrics have been identified as Research, Policy, Practice and Finance
- Metrics are also there to enhance transparency, bring accountability and make the sharing of knowledge easier

Panelists' response elements

Question 2

- The process of designing metrics is key and should start with the people impacted identifying where are the measurement needed so as to create indicators that allow comparison and predictability
- Adaptation cannot be considered in isolation from development and measurements should serve improved well-being
- The key principles of AMME framework could be matched with the six principles of ARA which are that research/metrics development has to be demand driven, coming out of a process of collaboration, needing to demonstrate societal impact, needing to draw on robust evidence, must empower people and build capacity and focus on inequalities and vulnerability
- Many experiences can be leveraged (from national M&E systems) and AMME could synthesize them in different ways of aggregation
- Aggregating metrics can make you lose the breadth and depth of adaptation actions and we should keep learning from and preserving the contextual richness and detail
- It is much more difficult to aggregate across outcomes than across outputs (such as number of beneficiaries, programs implemented, etc)
- Metrics as only as good as baseline data and mechanism to generate it permits

Breakout sessions



**Platform for
discussion among
participants**



**Extending the plenary presentation
and discussion in the context of
specific sectors and their needs**

Breakout sessions

Agriculture



Cities



Water



Techniques and Tools



IPAM International Platform on Adaptation Metrics

Agriculture Breakout Session

27th May 2021: Challenges of Adaptation Metrics: IPAM's Proposed Framework



Riad Balaghi
Chair of Agriculture Committee

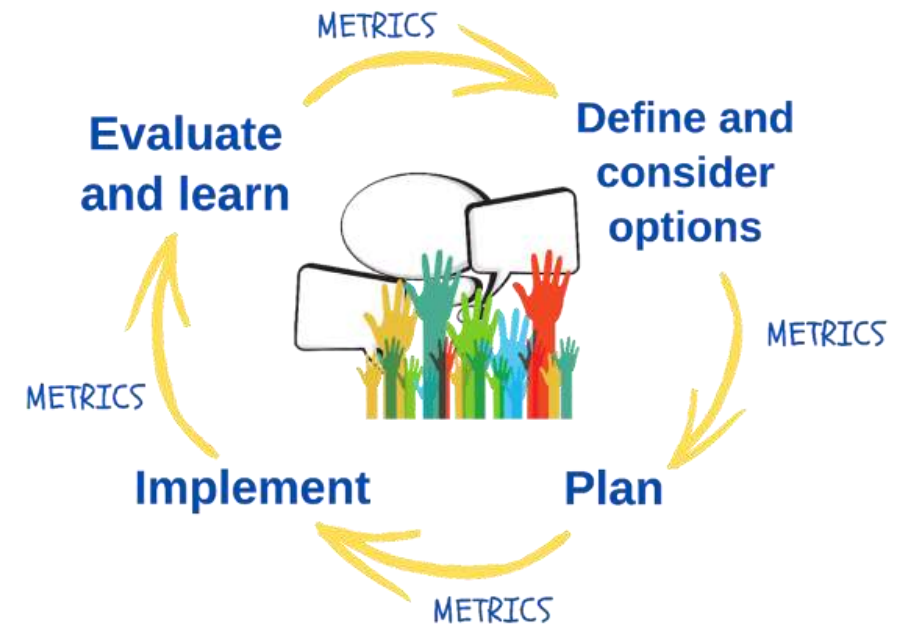
Director of Projects, AAA Initiative Foundation

Agriculture Committee: ipamagriculture@aaainitiative.org

Specific challenges in Agriculture



- ❑ Multidimensional metrics (agronomy, economy, environment, social, etc.) ;
- ❑ Multiscale metrics (from local to regional) ;
- ❑ Data collection, processing and dissemination, involving multiple actors - Standardization and links between the various existing metrics ;
- ❑ Links with NDCs, NAPs, SDGs, Transparency framework and global stocktake ;
- ❑ Links with development agencies, the private sector, banks and funders ;
- ❑ Identifying the needs from users' perspective ;
- ❑ Scientific and technology gaps ;
- ❑ Platform for data exchange, learning, capacity building and modelling.



Questions for Discussion...

1. What users do you think would benefit from the AMME Framework and how might they be approached?
2. What factors do you think are important to consider in using metrics to achieve desired adaptation outcomes?



Agriculture Breakout Session Discussion Notes

- Hundreds of metrics dedicated to agriculture are already existing and should be used to start with before building new ones
- Very interesting work has been done by FAO and ICRAF collecting metrics in the framework of climate strategies (NDCs and NAPs) and could be used as a good starting point
- Other national organizations developing their own standards should be contacted in a second phase, and all the existing concepts gathered in one database, screening what is plugged and what can be aggregated
- The process of gathering information should not bypass information on local perspective
- Agriculture metrics should capture the sensitivity of the poorest with the higher needs of adaptation to CC

In conclusion, there is a need for Aggregation/Simplification/Harmonization without losing (local) information concerning the poorest and most vulnerable

IPAM International Platform on Adaptation Metrics

Cities Breakout Session

27th May 2021: Challenges of Adaptation Metrics: IPAM's Proposed Framework



Marta Olazabal
Chair of Cities Committee

Research Fellow, Basque Centre for Climate Change, BC3

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Specific challenges in cities



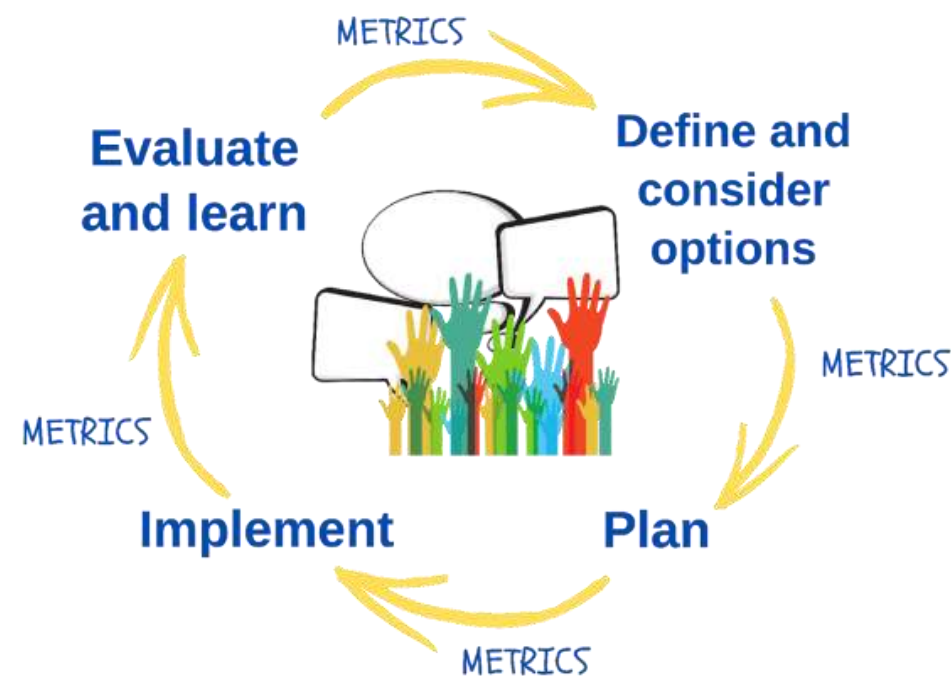
1. (Climate) information:

- Scarce, siloed, private
- Needs to be tailored to the local or sectoral needs
- Requires huge amount of resources and training

2. In spite of M&E guidelines, practice is

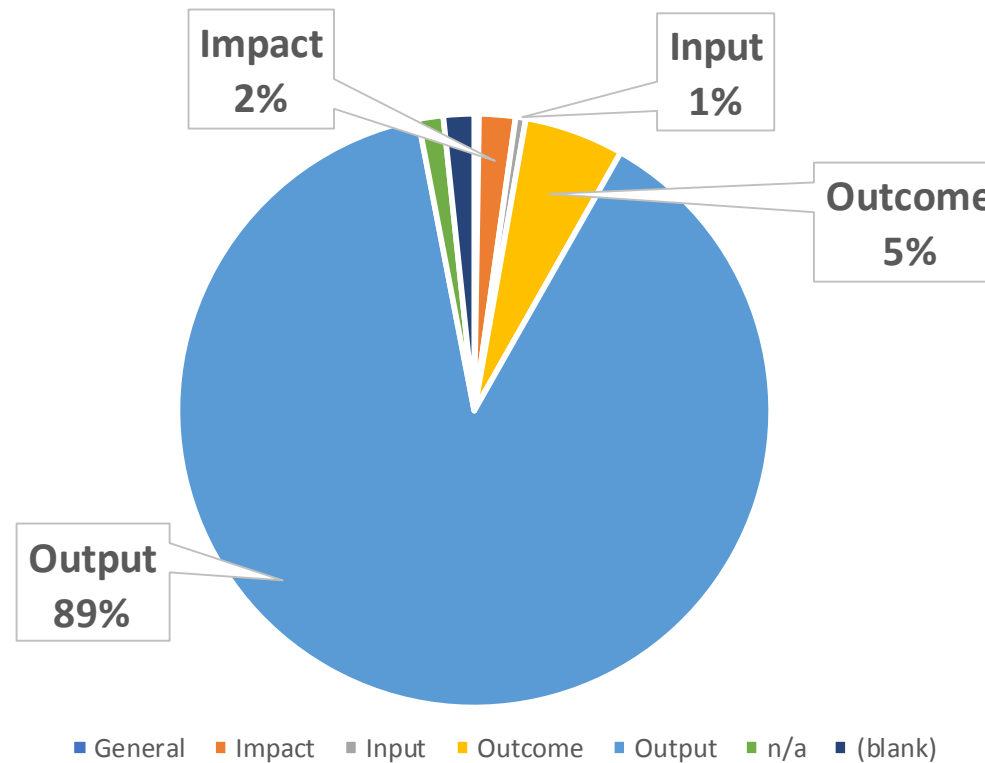
- Rare
- Uses and users are not diverse
- Proposed metrics are not informative enough
- Synergies and tradeoffs with sustainability, security...

3. Complexity: these decision-making stages couple, run in parallel



Example of the use of metrics in urban adaptation policy making

City	Number of metrics
Athens	81
Auckland	38
Barcelona	76
Glasgow	6
Lima	12
Montreal	1602
Nagoya	8
New York City	69
Portland	33
Tokyo	20
Vancouver	28
Grand Total	1973



- Ongoing work using database published in *Olazabal and Ruiz de Gopegui 2021*
- We have collected indicators of 11 adaptation plans.

Guiding questions



1. What are the key **uses (and users)** of metrics when it comes to **cities** and the **built environment**?

1. How to address the **challenges**?



How to make metrics usable?

Cities Breakout Session Discussion Notes

In this session we mainly discussed challenges for adaptation measurement and for the development of adaptation metrics.

It was mentioned:

- The relevance of **dynamics and nature of urbanisation**:
 - **Informal cities and informal data sources**; such sources and perspectives need to be included in any metric framework.
 - **Rapid urbanisation** represents both a challenge to developing usable metrics along processes of change and also, an opportunity to improve adaptive capacity in cities.
 - Potential trade-offs between detail and the inclusion informal perspectives, where data gathered from informal areas or sources may not be spatially specific.
- (City) scale might turn into a trap for the understanding of the real progress of adaptation considering the **connectedness of cities** to ecosystems, other cities and across scales.
- **Barriers for the evaluation** might be related to the lack of interactions, emergent tensions and conflicts that arise between practitioners and other public and private actors in decision-making processes regarding risks and vulnerabilities and how adaptation actions might reduce them.

Opportunities and Limitations:

- ✓ M&E frameworks and processes might be shared, but seeking **common metrics** might lose sight on the local context.
- ✓ **Benchmarking** might be dangerous when it seeks to compare progress based on a common set of metrics, as the context and scale are important.
- ✓ **Health** was mentioned as a transversal topic that is tightly connected to processes of urbanisation and policy-making at the local scale. Failure to integrate health considerations in monitoring and evaluation might erode adaptation outcomes.

International Platform on Adaptation Metrics

Water Breakout Session

27th May 2021: Challenges of Adaptation Metrics: IPAM's Proposed Framework



Driss Ouazar
Chair of Water Committee

Professor of Water Resources Engineering

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Specific challenges for Water

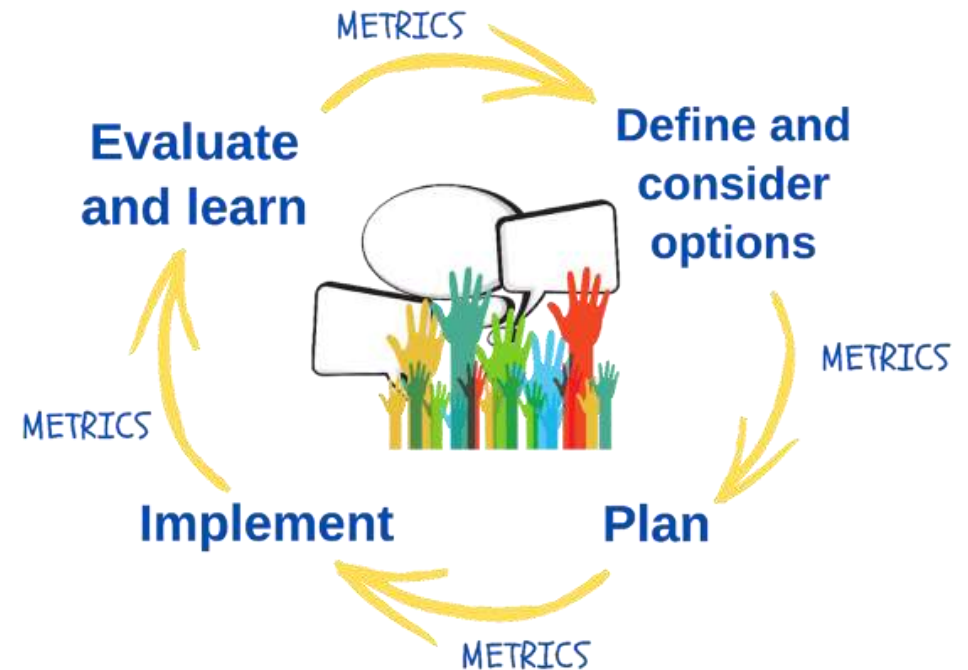


Sources of water

- **Conventional** - Rainfall (Primary)- Surface Water /Groundwater
- **Unconventional** (Waste Water Treatment and Reuse, Desalination of Brackish and Seawater, Water Harvesting)

Dimensions and Constraints

- Complexity (Processes, Many Disciplines, natural media, uncertainties, heterogenous data, big data, stochastic, Infrastructures, Engineering, Technology, Decision process, etc..)
- Climate dependent
- Socio-Economical and Cultural Aspects dimensions
- Spatial Geographic Dimension
- Population Growth
- Multi-Stakeholders and Users
- Water as a good and as a risk
- Data matters
- Staggering CC practice and unfunded adaptation metrics



Questions for Discussion...



1. What do you see as the key uses (and users) of metrics? Are there any “use cases” missing from the presentation you heard?
2. How do you address the challenges in metrics of:
 - a) Measuring what “can” be measured rather than what “should” be measured
 - b) Balancing comparability and aggregation with the need to retain context-specific detail. How might these issues affect metrics design and use?

Water Breakout Session Discussion Notes

- Water is big piece of AMME IPAM Work Program and puzzle
- Data matters and is still a problem:
 - Indicators might however be found and/or retrieved from international organizations/sponsors
 - Most data emphasis is however on poverty indicators
- Multi-Stakeholders and Users involvement and engagement
- Watershed framework as a main building block to be considered
- Water issues parameters for adaptation needs and metrics purposes have to include gender
- Methodologies to be developed in conjunction with T&T IPAM
- Integration of water dimension in the AMME work programme

International Platform on Adaptation Metrics

Techniques and Tools Breakout Session

27th May 2021: Challenges of Adaptation Metrics: IPAM's Proposed Framework



Karl Schultz

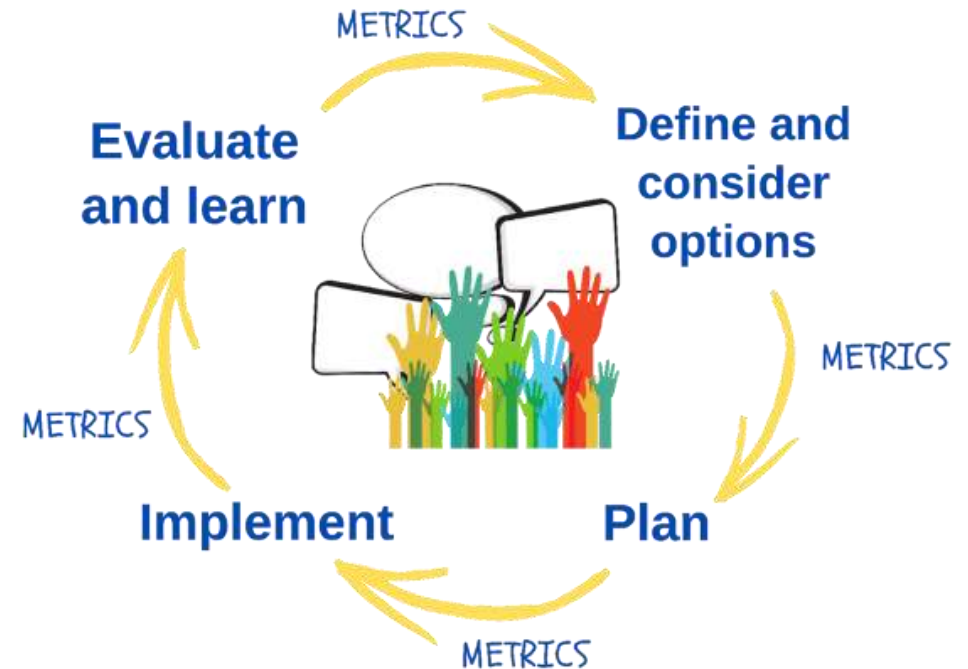
Chair of Techniques and Tools Committee

Executive Chairman, The Higher Ground Foundation

Cities Committee: ipamtools@aaainitiative.org
t: @karlhschultz | e: karl@thehighergroundfoundation.org

Techniques and tools: how to...?

- Merge and add new approaches to each discipline's tool kit for: *surveilling - archiving - sharing - evaluating - co-developing – piloting*
- Encourage innovation and quality improvements in: *data - foresight - metrics - monitoring approaches - evaluations - decision making*
- Promote multi-disciplinary perspectives



Questions for Discussion...

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Techniques and Tools Breakout Session Discussion Notes

- IPAM and the AMME Work Program would benefit from engaging with the Global Adaptation Mapping Initiative (GAMI)
- Land Degradation metrics discussions followed a similar discussion regarding “measuring what *can* be measured; rather than what *should* be measured”
- Residual risk was one item considered in the Adaptation Gap Report of 2016 that needs to be taken on board
- Adaptation needs is a normative term
- Question how much case studies should be basis for AMME work
- Need to address problem of data that is not useful for decision making
- Inclusiveness needs to be considered as results of metrics may be biased against certain groups, in particular related to gender
- Stakeholder engagement should be a priority in AMME work

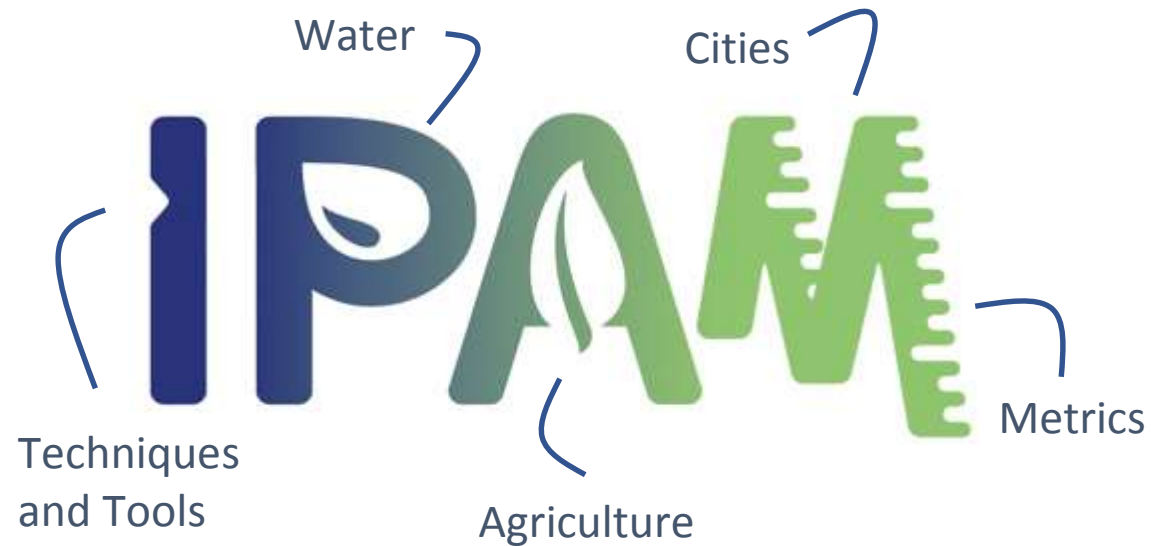
Next steps

AMME next steps

- Develop a project design for cross-sectoral/transversal metrics and tools and techniques applications
- Follow-up with development and testing of adaptation modelling frameworks for aggregation
- Roll-out AMME to support Global Goal on Adaptation work

In the longer term Phase II will build on the outputs and lessons from AMME to develop further tools, models, archives, etc.

IPAM needs you...



Join IPAM and spread the word to your colleagues and institutions!

<http://www.adaptationmetrics.org/join-ipam>



www.adaptationmetrics.org

Thank you for your attention and participation, we hope you enjoyed the webinar!

